PLINY the ELDER:-A celebrated Roman naturalist:—was born A.D. 23.—served in the army under Lucius Pompinius in Germany,—returned to Rome about the age of 30—was afterwards Procurator in Spain under NERO—at the time of his death was in command of a fleet at Misenum.

In August, A.D., 79, occurred the great eruption of Vesuvius. Observing the immence cloud of smoke, he embarked at Misenum and approached near the scene of danger to note the wonderful phenomena. He landed at Stabia, in the ensuing night he attempted to return to his vessel but perished on land, suffocated by ashes or sulphurous exhalations.

The great work of Pliny is the Natural History, of which Cuvier says.

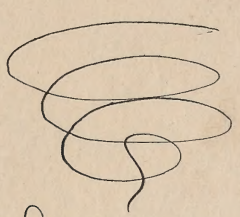
"It is one of the most precious monuments "that antiquity has left us and the evidence of er- "udition very wonderful in a Warrior and Statesman"

This edition was translated by HOLLAND. and PRINTED in 1601.

THE
HISTORY
OF THE WORLD
COMMONLY CALLED THE
NATURALL HISTORIE OF —

C. PLINIUS SECUNDUS

TRANSLATED INTO ENGLISH BY PHILEMON HOLLAND
DOCTOR OF PHYSICKE.



London
Printed by Adam Islip.
1634.

2 vols. folio. 600+ pages each

Gies Libet 26. Day

TO THE RIGHT HONOVRABLE SIR *ROBERT CECIL* KNIGHT, PRINCIPALL SECRETARIE TO THE QVEENS MAIESTIE, MASTER OF THE COVRT OF WARDS AND LIVERIES, Chauncellor of the Vniversitie of Cambridge, and one of her *Maiesties most Honourable privie Councell.*



He friendly acceptance which T. Livius *of Padua hath found in this Realme, since time he shewed himselfe in English weed unto her sacred Majestie, hath trained over unto him his neighbour* Plinius Secundus *from Verona. Whome, being now arraied in the same habit, yet fearfull to set foot forward in forrein ground, without the countenance of some worthie personage, who might both give him the hand at his first entrance in token of welcome, and also grace him afterwards with a favourable regard to win acquaintance, I humbly present unto your Honour. For considering the qualitie of the man, a Philosopher discoursing so deeply in all Learning, where may he looke for better acceptance than of him, who is most iustly styled, Patron of Learning? Which dignitie conferred of late upon your H. by the generall suffrages of a Noble Vniversitie (and that for your singular insight in all literature) as a complement to those high places whereunto the favour of a most prudent and judicious Princesse hath advaunced you, and the same correspondent to the rare wisdome, justice, and eloquence, which concurre in your person, like the severall beauties of the Rubie, Amethyst, and Emeraud meeting in one faire Opal, giveth a lovely lustre to your other titles, no lesse, than if the nine* Muses *and* Apollo, *represented naturally in that rich Agat of K.* Pyrrhus, *were inserted therein. Now if, as wee read of* * Alexander *and* * Demetrius, *two mightie monarchs, who amid their desseins of making conquests and besieging cities, behild otherwhiles* Apelles *and* Protogenes *how they handled their pencils; it may please your Honour betweene the managing of State-affaires under her Majestie, to cast your eie eftsoons upon* Plinie *for your recreation, and see how lively he depincteth, not* Venus Anadyomene, *drawne haply to the patterne of* Campaspe *a courtizan; nor* Ialysus *with his dog, in which picture, fecit* Fortuna naturam; *but even Nature her selfe, the immediat mother and nource of all things under the Almightie; I shall not only thinke him patronized thereby and sufficiently commended to the world, but also acknowledge my selfe much devoted unto your H. and bound for ever to praie for the encrease thereof, with long life and true happinesse.*

* Magnus.
* Poliorcetes

Your Honours most readie at commaund,

Philemon Holland.

The Preface to the Reader.

HAppie were they in times past reputed (and not unworthily) who had that gratious and heavenly gift, *aut facere scribenda, aut scribere legenda:* that is to say, either to doe such things as deserved to be written, or to write that vvhich was vvorth the reading. Those that could not attaine to these two braunches of felicitie, and yet utterly misliked idlenes, contented themselves in a third degree, namely, to take in hand the old works of their auncients, and by new labours to immortalize their memorie. Thus *Nicophanes* (a famous painter in his time) gave his mind vvholly to antique pictures, partly to exemplifie and take out their patternes after that in long continuance of time they were decaied; and in part to repaire and reforme the same, if haply by some iniurious accident they were defaced. The ingenuous mind of this artizan thus devoted to antiquitie, as I doe highly commend; so I cannot chuse but embrace his pollicie, seeking hereby to avoid the envie and reproofe of others. In this number I must raunge those learned men in severall ages, who to illustrat the monuments left by former writers, have annexed unto them their Commentaries; to save them entire and uncorrupt, have set thereto iudiciall observations; and to publish them for a generall benefit of posteritie, have translated the same into their mother language. As for my selfe, since it is neither my hap nor hope to attaine to such perfection, as to bring foorth somevvhat of mine ovvne which may quit the pains of a reader, and much lesse to performe any action that might minister matter to a writer; and yet so farre bound unto my native countrey and the blessed state wherein I have lived, as to render an account of my yeers passed & studies employed, during this long time of peace and tranquilitie, wherein (under the most gratious and happie government of a peerelesse Princesse, assisted with so prudent, politique, and learned Counsell) all good literature hath had free progresse and flourished, in no age so much: me thought I owed this dutie, to leave for my part also (after many others) some small memoriall, that might give testimonie another day what fruits generally this peaceable age of ours hath produced. Endeavoured I have therefore to stand in this third ranke, and bestowed those hours which might be spared from the practise of my profession, and the necessarie cares of this life, to satisfie my countreymen novv living, and to gratifie the age ensuing, in this kind. Like as therefore I have travailed alreadie in *Titus Livius* a renowmed Historiographer, so I have proceeded to deale with *Plinius Secundus* the elder, as famous a Philosopher. Now, albeit my intention and only scope vvas, to do a pleasure unto them that could not read these authours in the originall: yet needs I must confesse, that even my selfe have not only gained thereby encrease of the Latine tongue (wherein these works vvere vvritten) but also growne to greater knowledge of the matter and argument therein contained. For this benefit vvee reape by studying the books of such auncient authours,

That

That the oftener we read them over, the more ſtill we find and learne in them: as beeing ſo iudiciouſly and pithily penned, that, as the Poët ſaid verie vvell, *decies repetita placerent*. Well may the nevveſt ſongs and laſt deviſed plaies delight our ears at the firſt, and for the preſent raviſh our ſenſes; like as horarie and early Summer fruits content our taſt and pleaſe the appetit: but ſurely it is antiquitie that hath given grace, vigor, & ſtrength to vvritings; even as age commendeth the moſt generous and beſt wines. In which regard, and upon this experience of mine ovvne, I nothing doubt but they alſo whome I might iuſtly feare as hard cenſours of theſe my labours, will not only pitie me for my pains, but alſo in ſome meaſure yeeld me thanks in the end, vvhen either by the light of the Engliſh (if they bee young ſtudents) they ſhall be able more readily to goe avvay vvith the darke phraſe and obſcure conſtruction of the Latine; or (being great ſchollers and taking themſelves for deepe Criticks) by conferring the one with the other, haply to eſpie vvherein I have tripped, they ſhall by that means peruſe once againe, and conſequently gather nevv profit out of that authour whom peradventure they had laid by for many yeers as ſufficiently underſtood. When ſome benefit (I ſay) ſhall accrew unto them likewiſe by this occaſion, I leſſe dread their fearfull doome, to vvhich ſo vvilfully I have expoſed my ſelfe. Well I wiſt, that among the Athenians, order vvas taken by lavv, That an enterlude nevvly acted ſhould be heard vvith ſilence and applauſe: vvhich cuſtome, as it vvas reſpective and favourable to the firſt endeavours of the actours, ſo it implied an inevitable danger of hiſsing out and utter diſgrace, if afterwards they chanced to miſſe and faile in their parts. Having ſhevved my ſelfe once before upon the ſtage, preſuming upon this priviledge and the curteſie of the theatre, I might have now ſitten ſtill and ſo reſted: In mounting up thus ſoon againe, I may ſeeme either in the aſſured confidence of mine ovvne worthineſſe, to proclaime a challenge to all mens cenſures; or els upon a deepe conceit of ſome generall connivencie make reckning of an extraordinarie and wonderfull favour. But as the choiſe that I have made to publiſh the monuments of other men, vvithout fathering any thing of mine ovvne, doth excuſe and acquit me for the one; ſo the frovvard diſpoſition of carpers in theſe daies vvherein wee live, vvill checke the other. Hovvbeit, conſidering ſuch pains undergone by me one man, for the pleaſure of ſo many; ſo much time ſpent of mine, for gaining time to others; and ſome opportunities of privat lucre overſlipt and loſt, to win profit unto all; I feare not but theſe regards may deſerve a friendly acceptance, & countervveigh all defects and faults eſcaped, vvhatſoever. The perſuaſion hereof, but principally the privitie of my affectionat love unto my country (vvhich aſſured me of a ſafe-conduct to paſſe peaceably through their hands who are of the better ſort and well affected) induced me to a reſolution not onely to enter upon this nevv taske, but alſo to breake through all difficulties, untill I had brought the ſame, if not to a full and abſolute perfection, yet to an end and finall concluſion. Beſides this naturall inclination & hope vvhith carried me this vvay, other motives there vvere that made faile and ſet me forward. I ſavv how divers men before me had dealt vvith this authour, vvhiles ſome laboured to reforme vvhatſoever by iniurie of time vvas growne out of frame: others did their beſt to tranſlate him into their own tongue, and namely, the Italian and Frenc[illegible] moreover, the Title prefixed therto ſo univerſall as it is, to wit, *The Hiſtorie of* [illegible]

or *Reports of Nature*, imported (no doubt) that he first penned it for the generall good of mankind. Over and besides, the Argument ensuing full of varietie, furnished with discourses of all matters, not appropriat to the learned only, but accommodat to the rude paisant of the countrey; fitted for the paineſull artizan in town and citie; pertinent to the bodily health of man, woman, and child; and in one woord, suiting with all sorts of people living in a societie and common-weale. To say nothing of the precedent given by the authour himselfe who endited the same, not with any affected phrase, but sorting well with the capacitie even of the meanest and most unlettered: who also translated a good part thereof out of the Greeke. What should I alledge the example of former times, wherein the like hath evermore been approved and practised? Why should any man therefore take offence hereat, and envie this good to his naturall countrey, which was first meant for the whole world? And yet some there be so grosse as to give out, That these and such like books ought not to bee published in the vulgar tongue. It is a shame (quoth one) that *Livie* speaketh English as hee doth: Latinists onely are to bee acquainted with him: As who would say, the souldiour were to have recourse unto the universitie for militarie skill and knowledge; or the schollar to put on arms and pitch a campe. What should *Plinie* (saith another) bee read in English, and the mysteries couched in his books divulged: as if the husbandman, the mason, carpenter, goldsmith, painter, lapidarie, and engraver, with other artificers, were bound to seeke unto great clearks or linguists for instructions in their severall arts. Certes, such *Momi* as these, besides their blind and erroneous opinion, thinke not so honourably of their native countrey and mother tongue as they ought: who if they were so well affected that way as they should be, would wish rather and endeavour by all means to triumph now over the Romans in subduing their literature under the dent of the English pen, in requitall of the conquest sometime over this Iland, atchieved by the edge of their sword. As for our speech, was not Latine as common and naturall in Italie, as English here with us. And if *Plinie* faulted not but deserved well of the Romane name, in laying abroad the riches and hidden treasures of Nature, in that Dialect or Idiome which was familiar to the baseſt clowne: why should any man be blamed for enterprising the semblable, to the commoditie of that countrey in which and for which he was borne. Are we the onely nation under heaven unworthie to tast of such knowledge? or is our language so barbarous, that it will not admit in proper tearms a forrein phrase? I honour them in my heart, who having of late daies troden the way before me in *Plutarch*, *Tacitus*, and others, have made good proofe, that as the tongue in an Englishman's head is framed so flexible and obsequent, that it can pronounce naturally any other language; so a pen in his hand is able sufficiently to expresse Greeke, Latine, and Hebrew. And my hope is, that after mee there will arise some industrious *Flavij* who may at length *cornicum oculos configere*. For if my selfe, a man by profession otherwise carried away, for gifts farre inferiour to many, and wanting such helps as others be furnished with, have in some sort taught those to speake English who were supposed verie untoward to bee brought unto it; what may be expected at their hands, who for leisure may attend better; in wit are more pregnant; and beeing graced with the opinion of [illegible]en and favour of the time, may attempt what they will, and effect whatsoever

vet they attempt with greater felicity? A painfull and tedious travaile I confesse it is; neither make I doubt but many do note me for much follie in spending time herein, and neglecting some compendious course of gathering good and pursing up pence. But vvhen I looke back to the example of *Plinie*, I must of necessitie condemne both mine own sloth, and also reprove the supine negligence of these daies. A courtiour he was, and great favourit of the *Vespasians* both father and sonne: an oratour besides, and pleaded many causes at the barre: a martiall man withall, and served often times as a leader and commaunder in the field: within the cittie of Rome hee managed civile affairs, and bare honourable offices of State. Who vvould not thinke but each one of these places vvould require a whole man? and yet amid these occasions wherwith he vvas possessed, he penned Chronicles, wrate Commentaries, compiled Grammaticall treatises, and many other volumes vvhich at this day are utterly lost. As for the Historie of Nature now in hand, vvhich sheweth him to be an excellent Philosopher and a man accomplished in all kind of literature (the only monument of his that hath escaped all daungers, and as another Palladium been reserved entire unto our time) wherein hee hath discoursed of all things even from the starrie heaven to the centre of the earth; a man vvould marveile hovv hee could possibly either vvrite or doe any thing els. But considering the agilitie of mans spirit alvvaies in motion; an ardent desire to benefit posteritie, vvhich in these volumes hee hath so often protested; his indefatigable studie both day and night, even to the iniurie of nature, and the same continued in everie place, as well abroad as vvithin-house; in his iourney upon the high way, where his manner was to read and to indite; in his ordinarie passage through the streets betweene court and home, vvhere hee gave himselfe no rest, but either read, or els found his notarie worke to vvrite; and for that purpose rode usually in an easie litter, vvith the said Notarie close by his side: lesse wonder it is, that he perfourmed his service to prince and state according to his calling: and withall delivered unto posteritie so many fruits of wit and learning. For vvhat is not the head of man able to compasse? especially making saile with a fervent desire and resolution to see an end, and besides taking the vantage of all moments, and loosing no time, vvherof he vvas *unus omnium parcissimus*. Touching his affection to search into the secrets of Nature, it vvas that and nothing els vvhich shortened his daies, and hastened his untimely death: for having lived not much above the middle age of man, desirous he was to know the reason, Why the hill Vesuvius burned so as it did? and approched so neare, that with the strong vapours and smoke issuing from thence, his breath vvas sodainly stopped, and himselfe found dead in the place: a man worthie to have lived for ever. What remaineth now, but onely to recommend unto my countreymen this worke of his (which for mine owne part I vvish to be immortall) vvere it not for one scruple to bee cleared, vvhich at the first troubled my selfe a little, and might peradventure othervvise offend some readers. In attributing so much unto Nature, *Plinie* seemeth to derogat from the almightie God, to him ἄγνωστος; and therefore daungerous (saith one) to be divulged. Farre be it from me, that I should publish any thing to corrupt mens manners, and much lesse to preiudice Christian religion. After conference therefore vvith sundrie divines about this point, vvhom for their authoritie I reverence; whose learning I honor and embrace; and in whom for iudgement & synceritie of relig-

I reſt, confirmed I was in my firſt purpoſe, and reſolved to finiſh that vvhich I had begun, namely, not to defraud the world of ſo rich a gem, for one ſmall blemiſh appearing therein. And that it may appeare how I did not abound in mine ovvne ſenſe, but had regard as well to ſatisfie the conſcience of others as mine ovvne, I have thought good to annex immediatly hereunto, in manner of a Corollarie, the opinion of one grave and learned preacher concerning this doubt, as it vvas delivered unto me in writing; vvhich for that it is grounded upon ſufficient reaſons, and accordeth with the iudgement of the reſt, the leſſe I reſpect the raſh proiects of ſome fantaſticall ſpirits: nothing doubting, but the ſame will ſettle the minds of the weake, and free my labours from the taint of irreligion.

The copie of the ſaid Letter, written as touching the Tranſlation of Plinie.

MY beloved, in twentie yeers and better ſo many tokens of our mutuall love paſſing betweene us, I need not now to profeſſe my affection to your ſelfe; and my daily converſing with you, hath yeelded my approbation of your tedious labor in tranſlating Plinie. Theſe few lines therefore ſhall onely ſerve to witneſſe unto others the deſerved account which for your learning I have alwaies made of you, and my conceit of this your travaile in opening to your countrymen the treaſurie of Nature: therein to ſee and to admire the wiſdome, power, and the goodneſſe of the only true God, the Framer of Nature. I am not of their minds, who deſire that all humane learning in Arts and Naturall Philoſophie ſhould be reſerved under locke and key of ſtraunge language, without the which no other man ſhould have acceſſe unto it: For as ſuch knowledge is a braunch of that excellencie wherein man was formed, ſo the repaire thereof (though it be not the chiefe) is yet a thing unworthily neglected, as well in regard of our owne comfort therein gained, as for the glorie of God thereby promoted. And it was the wiſdome and provident hand of the All-ſufficient, ſo to guide the wiſe heathen in Arts and Nature, that they ſhould publiſh ſuch their skill unto their countreymen in mother tongue: partly to correct the rudeneſſe which is in ignorance, and in part to leave them the more inexcuſable: In which regard, they may in ſome ſort be called, The Prophets and Teachers of the heathen. And though Plinie and the reſt were not able by natures light to ſearch ſo far as to find out the God of Nature, who ſitteth in the glorie of light which none attaineth, but contrariwiſe in the vanitie of their imagination bewrayed the ignorance of fooliſh hearts, ſome doting upon Nature her ſelfe, and others upon ſpeciall creatures, as their God: yet feare we not that Chriſtians, in ſo cleare light, ſhould be ſo farre bewitched by ſuch blind teachers, as to fall before thoſe heathen idols. Yea, though ſome of them (as namely Plinie) have ſpoken diſhonourably of the only true God and of his providence, becauſe they knew him not; which ſpeeches (if it might ſtand with the lawes of Tranſlation) I could wiſh were utterly omitted; yet may wee hope that Chriſtian men ſo long taught by the light of grace out of the holy word of God, will no leſſe therefore give him his deſerved honour, than when they doe in like ſort heare the blaſphemie of Sanneherib king of Aſſur, who ſent to raile upon the living God. I feare not the corrupting of unſtable minds any thing ſo much by theſe fooliſh Gentiles which are without, as by the deceitfull ſpirit of error ſpeaking in the mouth of men within: ſuch ſeeme as are within the boſome of the Church. Theſe are the foxes by whome we feare

the

the ſpoile of the Lords vines when as the grapes firſt begin to cluſter; for whoſe taking I deſire that all Gods husbandmen would bee more carefull. As for the ſpeeches of theſe blind heathen, the true Chriſtian may well thereby be provoked to extoll the mercie of God, who ſitteth in ſo glorious a light as hath daſled the ſharpeſt ſight of Nature; but for our comfort hath put a vaile upon his glorie, and by his grace hath ſo cleared the eye of our underſtanding, that wee might ſee his face in his beloved, and know him to be the only true God, and his bleſſed providence upon all his creatures. And when they ſhall perceive that the wiſeſt clearke in naturall skill could non learne by the booke of heaven Pſal.19. Rom.1.
and earth to know their maker, whoſe glorie they declare, and handiworks ſet out; nor who it was that framed Nature, when by his word he firſt created them in ſuch excel- Gen.1.
lencie, and then, by his bleſsing gave, and by his providence working all in all, doth yet maintaine ſuch an operative power, as by the which they are ſtill continued in their kinds: nor how it came to paſſe that Nature loſt her excellencie in all creatures, and her Gen.3.
power unto good was not only weakened (whence we ſee her faile in many of her purpo- Rom.8.
ſes) but alſo perverted unto evill; then (I ſay) they will the more be ſtirred up by Gods Pſal.119.
grace to make reverent account of the holy Scriptures, which God in rich mercie hath & 147.
given to them to be a light in all things for to direct them through the errors in Natures blindneſſe, and to bring them to the heavenly Ieruſalem and happie world of all the holie where he dwelleth, whome they worſhip in unitie and trinitie. Proceed then my beloved friend to bring unto the birth your ſecond labour; whereof I pray that God may have honour in the praiſe of his works throughout nature, and wiſh you comfort in good acceptance with the reader, and your countrie uſe and pleaſure in the skill thereof. Vnto him which onely hath immortalitie and dwelleth in that light which none attaineth, to God only wiſe be all honour and glorie. Iunij xij. 1601.

Your loving friend in the Lord,

H. F.

The Errata.

IN the end of the dedicatorie Epiſtle of Plinie himſelfe,for Virilitigatores, read Vitiligatores. pag. 2.lin.32. for elevancie r. elegancie.p.4.l 43. I neither ſee,r.neither ſee I.p.30.l.34.ſtrike pits,r.ſinke pits.p.37. l.17.to, living,r.to live.l.32.chaume r.chaune.115.40.from whence,r.from thence.118.18.Gynæcocatrumeni,r.Gynæcocratumeni 135.18.on the one ſide confronteth both Perſis and Perſia, r.on the one ſide or other confronteth both Perſis and Parthia. 144.49.Aſsitæ,r.Aſcitæ. 155.24.Hirpix,r.Hirpiæ.160.42. Iphictus,read Iphiclus.161.31.imaginate,read imaginative. 164.32.dentifices,r.dentifrices. 16,.18.Puſie,r.Puſio.166.45.perforce,r.performe.169.1.of the Commons,r. Commonweale.32.ſaile,taken,read ſaile, woon. 41.for 30 armies,r.30 yeares.179.19,as then were,r.as there were.185.46.dore ſide,r.dore ſill,188.33.Chrion,r.Chiron.47.Chip, a,r.Chip-ax.195 31.perched,r.perches.197.13.keene ſill,r.keene bill.200.5.diſtinguiſh,r.which diſtinguiſh.201.47.have deviſ. d. As touching, r.have deviſed as touching.207.4. which even was, r.which even then, was. 208 39. hardneſſe,r.hardened. 42.his heat,r.his head.213.9 receiving,r.reſerving 222.31.hath,r.hath lived.224.46.kine,r.kind,48.kind,r.kine.226.55.to make them,r.to make him.230.14.know that,r.know when? 45.Summam, r.Sumen.244.21.Saredame,r.Sardane 246.10. Eleponts. r. Eelepouts. 253.7.lie with,r.lie without. 260.14.Tullus,r.That Tullus.261.29.Tarped,r.Torpedo.265.31. Muſcilong,r.Muſcilage.268.40.may beleeve,r.may well beleeve.269.11.being ſo,r.be ſo.276.32.Dawes,r.Doves,278.8 name of Martius,r.ſurname of Martius.283.38.have crooked,r.have not crooked.293.16.in margent for χῆρς,r.χῆμι.302.12.the male,r.the male viper. 307.37.for bruſe.r.brouſe. 311.2.any ſound, r.not the ſound. 3.and yet in, r.for in. 315.52.ſpread,r.ſpew.319.50.put,read pull. 321.23.they blow,r.doth blow.359.16.favourer,r.favourit.362.22.Daffodill.r.Aſphodell 367.44 wigs,r.bigs.382.3.Sinopum, r.Sang-dragon.388.2.include within the Parentheſis as far as,divine ſervice. 393.4.cardage,r.cordage. 396.10.whole plant, r.whole planke.55.many words more,r.any more words.399.53.receit,r.cerot.408. 32. Area,r.Arca. 33.wonders, r.roundnes. 417.44.Dexteriæ,r. Deuteriæ.421.29.eight ounces,r.five ounces.425.1.burning,r. bruing.430.55,trees,r.lees.439.40.Semenſium,r Sementine.443.38.Puteoli,r.Puteal.446.52.βαχαν,r.βαλανοι.451.44.hot hen, r.white hen.48.Laurell-braunched, read Laurell-branch.458.24.the maſt,r.that maſt.461.30.parts of France,r.parts of Italie.464.21.in the margent.Palimpaſſa,read Palimpiſſa.465.16. Piſcaſphaltum,r Piſſaſphaltum.466.9.cataplaſter,r.cataplaſme.470.14.frugous,r.fungous.472.24.convenient,r conveniently.480.40.Coryuti,r.Corymbi.484.34.oeleth,r.oelets.39.buildings,r bindings.490.48.pouderous.r.ponderus.491.12.Barchus,r.Bocchus.40.foure years,r.foure hundred yeares.495.3.Lucane.r.Vulcan.501.47.to proſper or,r.to proſper better or.502.52.grafting,r.graſing.504.12.hungrie, bitter, r.hungrie and bitter.39.Tenara,read Tenera.55.aſt.read taſt. 517.31.ſtocke is,r.ſtocke be.518.49.but muſt,r.muſt.429.18.in marg. lines,r.limes.534.39. Ocynium,r.Ocymum.541.27.ſuck, r.ſmite.28.named,r.is named.547.10.*in* the margent,r.Quadrantall.552.in the title read eighteenth booke. 55.ſweetly,read ſubtilne.554.52.in the marg.r.Laudato. 557.3.forkes,r.forke. 4.ſtorch,r.Storke. 558.3.fuell,r.Fennell.559.49.their weight, r.the weight.573.12.in the margent,r.Fabali.54.Trifolium,r. Trifolie.575.22.in Margin,r.de Plant.23.to ſpeake,read to treat. 46.Sea greene,r.Sea-greene.577.42.Sung,r.Sing.578.11.ſull,r.full.34.dunging it,r.dunging it well. 579.13.in marg. r.Strigare.54.Licare and Delicare,r.Lirare and Delirare.581.35.Frumentie,r. Frument.582.6.Tenara,r.Tenera.586.21.Chalcidians r.Chaldæans.593.54.not pain,r.not take the paine.597.55.men take,r.men have.598.4.ſundry,r.ſtudie. 604.14.meevils,read weevils.

Hic Liber est meus
et testus ex Dellis
[illegible] ime venit
huic nomen mihi indit
[illegible] ejus Liber Septimo die Octobris:

THE FIRST BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

*The Preface or Epistle Dedicatorie to Prince *Vespasian, his [freind] C. Plinius Secundus sendeth greeting.*

*i. Titus.

THese books containing the Historie of Nature, vvhich a fevv daies since I brought to light (a nevv vvork in Latin, and namely among the Romanes, your cittizens and countrimen) I purpose by this Epistle of mine to present and consecrate unto you, most svveet and gentle Prince [for *this title accordeth fittest unto you, seeing that the name of [*Most mightie] sorteth vvell vvith the age of the Emperor your father] vvhich haply might seeme boldnesse and presumption in me, but that I know hovv at other times **you were wont to have some good opinion of my toies and fooleries.* Where, by the vvay, you must give me leave to mollifie a little the verses vvhich I borrovv of my *countriman Catullus.* (See also hovv I light upon **a word* used among soldiors, which you are acquainted vvith, since time vve served both together in the camp:) For he as you vvot full well, changing the former sillables of his verses one for another, made himselfe somewhat more harsh than he would seeme to be unto the fine ears of his familiar friends, the *Veranioli & Fabulli.* And withall, I would be thought by this my malapart writing unto you, to satisfie one point, which, as you complained in your answer of late to another rude & audacious letter of mine, I had not performed, to wit, That all the world might see (as it were upon record) how the Empire is managed by you and your father equally: and notwithstanding this imperiall maiestie wherunto you are called, yet is your affabilitie and maner of conversing with your old friends, fellow-like, & the same that alwaies heretofore it had been. For albeit you have triumphed vvith him for your noble victories, ben Censor in your time, and Consull *six times, executed the sacred authoritie of the Tribunes, patrones, and protectors of the Commons of Rome, together vvith him: albeit I say you have othervvise shevved your noble heart in honouring and gracing both the court of the Emperor your father, and also the vvhole state of Knights and Gentlemen of Rome, vvhiles you vvere captaine of the guard, and Grand maister of his house and roiall pallace (in which places all, you caried your selfe respectively to the good of the Commonweale) yet to all your friends, and especially to my selfe, you have borne the same countenance as in times past vvithin the campe, vvhen vve served under the same colours, and lodged together in one pavilion. So as in all this greatnesse and high estate vvherunto you are mounted, there is no other change and alteration seen in your person but this, That your power is novv answverable to your vvill, & able you are to do and performe that good vvhich you ever meant, and still intend.

* *Suavissim*

* *Maximus.*

* *Namque tu lebas, Meas aliquid putar nugas.*

* *Conterranc*

It seemeth t *Pliny* read d in *Catullus*, *putare nam Nugas esse quid meas fol bas*, which deed was bu an hard con position and couching of the words.

* *Sexies*, or r ther *Septies*, c of *Suetonius*.

And

And howſoever this great maieſtie, reſplendent in you on every ſide, in regard of thoſe high dignities above rehearſed, may induce the vvhole vvorld beſides to reverence your perſon in all obeiſance; yet I for my part am armed onely vvith a kind of audacitie and confidence to ſhevv my dutie and devoire unto you, after a more familiar manner than others: and therfore, this my adventurous raſhnes, vvhatſoever, you muſt impute unto your ovvn courteſie; and if I chaunce to fault therein, thanke your ſelfe therefore, and ſeeke pardon at your ovvn hands. Well, baſhfulneſſe I have laid aſide, and put on a bold face, and all to no purpoſe. For why? although your gentleneſſe and humanitie be one way attractive and inducceth me to draw neare unto your preſence, yet another way you appeare in great maieſtie: the ſublimitie I ſay of your mind, your deepe reach, high conceit, and rare perfections, ſet me as far back: no lictors & huiſhers marching before you, ſo much, that I dare not approch. In the firſt place: Was there ever any man, whoſe words paſſed from him more powerfull, & who more truly might be ſaid to flaſh forth as lightning the force of eloquence? What Tribune was there known at any time to perſuade & move the people with good language, more effectually? How admirable was your utterance in thoſe publick Orations, wherin you thundered out the praiſe worthie acts of the Emperor your father, that all the grand-place rung therwith? What a ſingular teſtimonie ſhewed you of rare kindneſſe & affection to your brother, in ſetting out his praiſes to the full? As for your skill in Poëtrie, how excellent, how accompliſhed is it. Oh the bountie of your mind! Oh the fertilitie of your pregnant ſpirit! that you ſhould find means to imitat, yea and to match your *brother in that kind. But who is able boldly to give an eſtimat of theſe gifts to their worth? How may a man enter into the due conſideration therof, without feare of the exquiſit cenſure and exact iudgement of your wit, eſpecially being provoked and challenged therunto as you are. For to ſay a truth, the caſe of them who publiſh a worke in generall tearmes, is far unlike to theirs that will ſeeme to dedicat it particularly, and by name, to a prince ſo iudicious as your ſelfe. For had I ſet forth this my booke ſimply, & ſtaied there without any perſonall dedication, thē I might have come upon you & ſaid, Sir, what ſhould a mightie Commander and Generall of the field as you are, buſie himſelfe to read ſuch matters? vvritten theſe treatiſes were to the capacitie of the vulgar people, for baſe commons, rude husbandmen, and peaſants of the countrie, for poor artiſans; and in one word, to gratifie them who had no other means of great emploiment, nor time & leaſure but to ſtudie upon ſuch points and nothing els: What ſhould you make your ſelfe a cenſor of this worke? And verely, when I made firſt ſhew of this enterpriſe of mine, I never reckned you in the number of thoſe iudges that ſhould paſſe their ſentence upon theſe writings; I wiſt full well that you were a greater perſon far, & I ſuppoſed that you would never abaſe your ſelfe nor ſtoupe ſo low as to read this book of mine. Over and beſides, a common caſe it is, and incident to men of deepe learning and great conceit, that otherwhiles exception may be taken againſt them, and their iudgement reiected in this behalfe. Even *M. Tullius* that renoumed Orator, and vvho for vvit and learning had not his fellovv, taking the vantage of that libertie, uſeth the benefit therof: and (vvhereat vve may vvell marvell) maintaineth the action by an advocat, and taketh example (for his defence) from *Lucilius*: for in one part of his vvorkes thus hee ſaith, *I would not have learned* Perſius *to read theſe bookes of mine, loth I am that he ſhould cenſure me.*

*For Domitian Veſpaſian was reputed an excellent Poet.

As

As for *Lælius Decimus*, I am content to submit them to his opinion. Now if such an one as *Lucilius*, who was the first that durst controule the vvritings of others, and tooke upon him to scoffe at their imperfections, had reason thus to say; if *Cicero* took occasion to borrow the said speech of him for to serve his own turne, and namely in his Treatise of Politiques, vvhere he vvrote of a Commonweale; how much greater cause have I to distrust my selfe, and to decline & avoid the censure of some iudge of deepe understanding? But cut I am from this refuge and meanes of defence, in that I expressely make choise of you in this dedication of my worke: for one thing it is to have a iudge, either pricked by pluralitie of voices, or cast upon a man by drawing lots; and a farre other thing to chuse and nominat him from all others: and great difference is there betweene that cheare and provision which we make for a gueſt solemnely bidden and invited, and the suddaine fare and intertainement which is readie for a stranger who commeth to our house unlooked for. *Cato*, that professed enemie of ambition, vainglorie, and indirect suit for offices, who took as great contentment in those estates and dignities which he refused and reiected, as in them which he enioied, attained to this good name of uprightnesse and synceritie, that when in the hoteſt broile about election of Magistrats that ever was in his time, they that stood therfore, put into his hands their mony upon trust, as a cautionarie pawne and assurance of their integritie and fidelitie that way; they professed that they did it in testimonie of their conceit of his equitie and innocence, the cheefe and onely thing that a man is to regard in this life: wherupon ensued that noble and memorable exclamation of *M. Cicero*, who speaking of the said *Cato*, brake out into these words: Oh gentle *M. Portius*, hovv happie and blessed art thou, vvhom no man vvas ever so hardie as to sollicite to any leaud thing, or contrary to right and honestie! *L. Scipio*, surnamed *Asiaticus*, at vvhat time as he appealed unto the Tribunes of the Commons, and besought their lawfull favour (among vvhome, *C. Gracchus* vvas one, a man vvhom he tooke for his mortall enemie) presuming upon the goodnesse of his cause, gave out and said, That his verie enemies, if they vvere his iudges, could not chuse but quit him and give sentence on his side. Thus vvee see how everie man maketh him peremptorily the supreme and higheſt iudge of his cause, vvhom himselfe chuseth and appealeth unto: which manner of choise the Latines call Provocatio. As for your selfe verely, vvho are set in the moſt eminent & cheefe place among men, & otherwise endued vvith singular eloquence and profound knowledge, no marvell is it, if those that doe their dutie unto you, salute you, kisse your hand, and come with great respect and reverence: In which regard, exceeding care above all things would be had, that whatsoever is said or dedicated unto you, may beseem your person, & be worth acceptation. And yet the gods reiect not the humble praiers of poore countrey peasants, yea, and of manie nations, vvho offer nothing but milke unto them: and such as have no Incense, find grace and favour manie times with the oblation of a plaine cake made onely of meale and salt; and never was anie man blamed yet for his devotion to the gods, so he offered according to his abilitie, were the thing never so simple.

For mine own part, challenged I may be more still for this my importune and inconsiderat boldnesse, in that I would seeme to present these bookes unto you, compiled of so slender stuffe & matter as they be: for therin can be couched no

great wit (which otherwiſe in me was ever mean and ſimple) neither admit they any digreſsions, orations, ſpeeches, and diſcourſes, ne yet admirable caſes & variable chaunces, nor any other occurrent, either pleaſant to rehearſe, or delectable to hear. The truth is this, the nature of all things in this world, that is to ſay, matters concerning our daily and ordinary life, are here deciphered & declared, and that in barrain tearms, without any goodly ſhevv of gay and glorious phraſes: and vvhatſoever I have put dovvn, concerne it doth the baſeſt points therof, inſomuch as for the moſt part I am to deliver the thing in hand, either in ruſticall ſpeech, or els in forrain, nay, in barbarous language, ſuch alſo as may not vvell be uttered, but vvith reſerving honour to the hearers, and reverence to the readers.

Moreover, the vvay that I have entred into, hath not ben troden before time by other vvriters, being indeed ſo ſtrange & uncouth, as a mans mind vvould not willingly travell therin. No Latin author among us hath hitherto once ventured upon the ſame argument, no one Grecian whatſoever hath gone through it and handled all: and no marvell, for many of us love not to take any pains, but ſtudy rather to pen matters of delight and pleaſure. True it is, I muſt needs ſay, that others have made profeſsion hereof, but they have done it with ſuch ſubtiltie and deepneſſe, that all their travels and writings by that means, lie as it were dead and buried in darkneſſe. Now come I, & take upon me to ſpeake of every thing, and to gather as it were a compleat body of arts and ſciences (which the Greeks call ἐγκυκλοπαιδείας) that are either altogether unknown or become doubtful, through the overmuch curioſitie of fine wits: again, other matters are deciphered in ſuch long diſcourſes, that they are tedious to the readers, inſomuch as they loath and abhor them. A difficult enterpriſe it is therfore to make old ſtuffe new, to give authoritie & credit to novelties, to poliſh and ſmooth that which is worne and out of uſe, to ſet a gloſſe & luſtre upon that which is dim and dark, to grace & countenance things diſdained, to procure beleef to matters doubtfull; & in one word, to reduce nature to all, and all to their own nature. And verely to give the attempt only & ſhew a deſire to effect ſuch a deſſeigne as this, although the ſame be not brought about and compaſſed, were a brave and magnificent enterpriſe. Certes of this ſpirit am I, that thoſe learned men & great ſtudents, who making no ſtay but breaking through all difficulties, have preferred the profit of poſterity before the tickling and pleaſure of itching ears in theſe daies; which I may proteſt that I have aimed at, not in this worke only, but alſo in other of my books alreadie: and I profeſſe, that I wonder much at *T. Livius*, otherwiſe a moſt renowned & famous writer, who in a preface to one of his books of the Roman hiſtorie which he cõpiled from the foundation of Rome, thus proteſted, That he had gotten glorie ynough by his former writing, and might ſit ſtill now & take his eaſe, but that his mind was ſo reſtleſſe and ſo ill could abide repoſe, that contrariwiſe it was fed and nouriſhed with travell & nothing els. But ſurely me thinks, in finiſhing thoſe Chronicles, he ſhould in dutie have reſpected the glory of that people which had conquered the vvorld and advanced the honour of the Romane name, rather than diſplaied his owne praiſe and commendation: Y wis, his demerit had been the greater, to have continued his ſtorie as he did, for love of the ſubiect matter, and not for his privat pleaſure; to have I ſay performed that peece of vvork more to gratifie the ſtate of Rome, than to content his owne mind and affection. As touching my ſelfe (foraſmuch as *Domitius Piſo* ſaith, That bookes ought to be

trea-

treaſuries & ſtore-houſes indeed, and not bare & ſimple vvritings) I may be bold to ſay and averr, That in 36 Books I have compriſed 20000 things, all worthie of regard & conſideration, which I have collected out of 2000 volumes or therabout, that I have diligently read (and yet verie fevv of them there be that men learned othervviſe, and ſtudious, dare meddle vvithall, for the deepe matter and hidden ſecrets therein contained) and thoſe vvritten by 100 ſeverall elect and approved authors: beſides a vvorld of other matters, vvhich either vvere unknovvn to our forefathers and former vvriters, or els aftervvards invented by their poſteritie. And yet I nothing doubt but many things there be, vvhich either ſurpaſſe our knovvledge, or els our memorie hath overſlipt: for men vve are, & men emploied in many affairs. Moreover, conſidered it vvould be, that theſe ſtudies vve follovv at vacant times and ſtolne hours, that is to ſay, by night ſeaſon onely; to the end that you may knovv, hovv vvee to accompliſh this, have neglected no time vvhich vvas due unto your ſervice: The daies vve vvholly employ & ſpend in attendance about your perſon; we ſleepe only to ſatisfie nature, even as much as our health requireth, and no more; contenting our ſelves with this revvard; That vvhiles vve ſtudie and muſe (as *Varro* ſaith) upon theſe things in our cloſet, vve gaine ſo many hours to our life; for ſurely vve live then onely, vvhen vvee vvatch and be avvake. Conſidering novv thoſe occaſions, thoſe lets and hinderances above-named, I had no reaſon to preſume or promiſe much; but in that you have emboldened me to dedicat my books unto you, your ſelfe perfourmeth vvhatſoever in me is vvanting: not that I truſt upon the goodneſſe and worth of the worke, ſo much, as that by this means it will be better eſteemed and ſhevv more vendible: for many things there be that ſeeme right deare & be holden for pretious, only becauſe they are conſecrated to ſome ſacred temples.

As for us verely, we have vvritten of you all, your father *Veſpaſian*, your ſelfe, and your brother *Domitian*, in a large volume vvhich vve compiled touching the hiſtorie of our times, beginning there vvhere *Aufidius Baſſus* ended. Novv if you demand & aske me, Where that hiſtorie is? I anſvver, That finiſhed it vvas long ſince, and by this time is iuſtified and approved true by your deeds: otherwiſe I vvas determined to leave it unto my heire, & give order that it ſhould be publiſhed after my death, leaſt in my life time I might have ben thought to have curried favor of thoſe, vvhoſe acts I ſeemed to pen vvith flatterie, & beyond all truth. And therfore in this action I do both them a great favour vvho haply vvere minded before me to put forth the like Chronicle, and the poſteritie alſo vvhich ſhall come after; vvho, I make reckning & know, vvill enter into the liſts vvith us, like as vve have done with our predeceſſors. A ſufficient argument of this my good mind & frank hart that way you ſhal have by this, That in the front of theſe books novv in hand, I have ſet down the verie names of thoſe writers, vvhoſe help I have uſed in the compiling of thē: for I have ever ben of this opinion, That it is the part of an honeſt minded mā & one that is full of grace & modeſty, to confeſſe frankly by whō he hath profited & gotten any good: not as many of thoſe unthankful perſons have done, vvhō I have alledged for my authors. For to tell you a plaine truth, know thus much frō me, that in cōferring thē togither about this vvork of mine, I have met with ſome of our modern vvriters, who word for word have exēplified & copied out vvhole books of old authors, & never vouchſafed ſo much as the naming of them, but have taken their labors & travels to themſelves. And

this

this they have not done in that courage and spirit to imitate, yea and to match them as *Virgil* did *Homer*: much lesse have they shewed that simplicitie & apert proceeding of *Cicero*, who in his books of Pollicie and Common-weale professeth himselfe to hold with *Plato*; in his Consolatorie Epistle written to his daughter, confesseth and saith plainly thus, I followe *Crantor*, & *Panætius* likewise in his Treatise concerning Offices. Which worthie monuments of his (as you know well) deserve not onely to be seene, handled, and read daily, but also to be learned by heart everie word. Certes, I hold it for a point of a base and servile mind, and wherein there is no goodnesse at all, to chuse rather to be surprised and taken in theft, than to bring home borrowed good, or to repay a due debt, especially when the occupying, use, and interest thereof, hath gained a man as much as the principall.

Now as touching the titles and inscriptions of Bookes, the Greeks therein have a wonderfull grace and great felicitie: some have entituled them Κηρίον, whereby they would give us to understand of A sweet hony-combe: * others Κέρας Αμαλθείας, that is to say, The horne of plentie and store: in such sort, that whosoever readeth these goodly titles, must needs hope for some great matters in such books, and as the proverb goeth, looke to drinke there or els no where, a good draught of hens milke. You shall have moreover their books set out with these glorious inscriptions, The Muses, The *Pandects, *Enchiridion, * Λειμών, *Πινακίδιον: Goodly names all, & such, as who would not make default of appearance in court, and forfeit a recognisance or obligation, to unclaspe such books and turne over the leafe? But let a man enter into them and read forward, Lord! how little or no substance at all shall he find within the verie mids, answerable to that brave shew in the front or outside thereof? As for our countreymen (Latines I meane and Romans) they be nothing so fine and curious as the Greeks, grosse are they in comparison of them in giving titles to their books: they come with their Antiquities, Examples, and Arts, and those also be such authors as are the most pleasant and of finest invention amongst them all. *Valerius* who (as I take it) was named *Antias*, both for that he was a citizen of Antium, and also because the auncestours of his house were so called, was the first that gave to a booke of his own making, the title of *Lucubratio*, as a man would say, Candle-worke or Night-studie. *Varro*, he tearmeth some of his Satyres *Sesculyxes* and *Flexibulæ*. *Diodorus* among the Greeks was the first that laid aside toyish titles, and because he would give some grave name to his Chronicles, entituled it *Bibliotheca*, *i.* a Librarie. *Apion* the famous Grammarian, even he whome *Tiberius Cæsar* called the Cymball of the world (whereas indeed he deserved to be named a Timbrell or Drum rather for ringing and sounding publicke fame) was so vainglorious, that he supposed all those immortalized unto whome he wrote or composed any pamphlet whatsoever. For mine owne part, although I nothing repent me that I have devised no pretier Title for my Booke than plaine *Naturalis Historia*, *i.* The reports of Nature, without more ceremonie, yet because I would not be thought altogither to course and rate the Greeks, I can be content, nay I am willing to bee thought in this behalfe like unto those excellent grand-masters in Greece for Painting and Imagerie, whome you shall find in these Reports of mine, to have entituled those rare and absolute peeces of worke (which the more we view and looke upon, the more wee admire and wonder

* To wit, *Helius Melissus.*

* Containing all things, as *Tyro Tullius* did.

*A manuell to be carried alwaies in hand.

* Medow.

* A Table or Index.

vvonder at for their perfection) vvith halfe titles and unperfect inscriptions, in this manner, *Apelles * went in hand with this Picture:* or, *Polycletus was a making this Image:* as if they were but begun, never finished and laid out of their hands: vvhich vvas done (no doubt) to this end, that for all the varietie and diversitie of mens iudgements scanning of their vvorkemanship, yet the artificer thereby had recourse to make excuse; had means (I say) to crave and have pardon for any faults and imperfections that could be found, as if he meant to have amended any thing therein amisse or vvanting, in case hee had not been cut off and prevented by death. These noble vvorkemen therfore herein shevved right great modestie, that they set superscriptions upon all their painted tables, pourtraitures, and personages, as if they had been the last peeces of their vvorkmanship, and themselves disabled by unexpected death that they could not make a finall end of any one of them: for there vvere not knovvne (as I take it) above three in all, which had their absolute titles vvritten upon them in this forme, *Ille fecit, i.* This *Apelles* vvrought: & those Pictures vvill I vvrite of in place convenient. By vvhich it appeared evidently, that the said three tables vvere fully finished, and that the vvorkeman was so highly contented with their perfection, that he feared the censure of no man: No marveile then, if all three were so much envied and admired throughout the world, no marveile if everie man desired to be master of them.

* *Apelles faciebat.*

Novv for my selfe, I know full vvell & confesse freely, that many more things may be added, not to this storie alone, but to all my books that I have put forth alreadie: which I speake by the vvay, because I vvould prevent and avoid those fault-finders abroad, those correctors and * scourgers of *Homer*, (for surely that is their verie name) because I heare say there be certain Stoike Philosophers, professed Logicians, yea and Epicureans also (for at Grammarians hands and Criticks I never looked for other) who are vvith child still and travaile untill they be delivered of somewhat against my books which I have set forth as touching Grammer: and for this ten yeers space, nothing is come to light, but evermore the fruit miscarrieth belike before the full time, as the slip of an unperfect birth; whereas in lesse space than so, the verie Elephant bringeth foorth her calfe, be it never so big. But this troubleth me never a whit, for I am not ignorant that a silly vvoman, even a harlot and no better, durst encounter *Theophrastus* and vvrite a booke against him, notwithstanding hee vvas a man of so incomparable eloquence that thereupon he came by his divine name *Theophrastus*: from vvhence arose this proverbe and by-word, * Marie then go chuse a tree to hang thy selfe. And surely I cannot containe and hold my tongue, but I must needs set downe the verie vvords of *Cato Censorius*, so pertinent to this purpose; vvhereby it may appeare, that even *Cato* himselfe a most worthie personage, vvho vvrote of militarie Discipline, vvho had been brought up and trained to feats of vvarre under Great *Scipio Africanus*, or rather indeed under *Annibal*, vvho in the end could not endure *Africanus* himselfe, but was able to controll him in martiall affaires: and vvho besides having the conduct as L. Generall of the Romane armie, atchieved the better hand over his enemies in the field, and returned vvith victory: this *Cato* (I say) could not avoid such backbiters and slaunderers, but knowing that there vvould bee many of them readie to purchase themselves some name and reputation by reproving the knovvledge and skill of others, brake out into a cer-

* *Homeromastiges.*

* If women may be allowed to controll mẽs writings, we may be wearie of our lives and goe hãg our selves well enough.

a certain ſpeech againſt them: And vvhat vvas it? I knovv right vvell (quoth he, in that booke aforeſaid) that if theſe vvritings of mine come abroad once and be publiſhed to the vievv of the vvorld, there vvill be many ſtep foorth to quarrell and cavill therevvith; ſuch fellovvs ſooneſt and moſt of all who are quite void of vertue and honeſtie, and knovv not vvhat belongeth to true honour. But ſurely ſay vvhat they vvill, I let their vvords run by, like raine vvater. It vvas a prettie ſpeech alſo and a pleaſant apothegme, that *Plancus* uttered in the ſemblable caſe: for beeing informed that *Aſinius Pollio* vvas deviſing and framing certaine invective Orations againſt him, vvhich ſhould be ſet foorth either by himſelfe or his children, after the deceaſe of *Plancus* and not before, to the end that they might not be anſvvered by him; hee ſaid readily by vvay of a ſcoffe, That none but vaine bugs & hobgoblins uſe to fight vvith the dead: vvith vvhich vvord he gave thoſe orations ſuch a counterbuffe, that (by the iudgement of the learned) none vvere accounted aftervvard more impudent and ſhameleſſe than they. For mine ovvn part, being ſure that theſe buſie bodies ſhall never be able to bite me (and verely *Cato* hath given ſuch fellovvs a proper name, and called them *Virilitigatores*, by a tearme elegantly compounded of vices and quarrels: for to ſay a truth, what did they elſe but picke quarels and make brawls?) I vvill proceed and goe on ſtill in my intended purpoſe.

Now to conclude and knit up mine Epiſtle: Knovving as I doe, that for the good of the Commonweale, you ſhould be ſpared and not empeached by any privat buſineſſe of your owne, and namely in peruſing theſe long volumes of mine; to prevent this trouble therefore, I have adioyned immediatly to this Epiſtle and prefixed before theſe books, the Summarie or Contents of everie one: and verie carefully have I endeavoured, that you ſhould not need to read them throughout, vvhereby all others alſo after your example, may eaſe themſelves of the like labour: and as any man is deſirous to know this or that, he may ſeeke and readily find in vvhat place to meet vvith the ſame. This learned I of *Valerius Sorranus* one of our ovvne Latin vvriters, vvho hath done the like before me and ſet an Index to thoſe Books which he entituled Επωνιδων

THE INVENTORIE OR INDEX,

CONTAINING THE CONTENTS OF XXXVII BOOKES, TOVCHING THE HISTORIE OF NATVRE,

WRITTEN BY C. PLINIVS SECVNDVS, WHICH IS RECEIVED FOR THE FIRST BOOKE OF THEM.

¶ The Summarie of every Booke.

THe firſt Booke containeth the Dedicatorie Epiſtle or Preface of the vvhole vvorke, addreſſed to *Titus Veſpaſian* the Emperour. Alſo the names of the Authors out of vvhich he gathered the Hiſtorie, vvhich he proſecuteth in 36 Bookes: togither vvith the Summarie of every Chapter: & beginneth, *The Books, &c.*

The ſecond, treateth of the World, Elements, and Starres: and beginneth thus, *The world, &c.*

The third, deſcribeth the firſt and ſecond gulfe, which the Mediterranean ſea maketh in Europe: and beginneth in this manner, *Hitherto, &c.*

The fourth, compriſeth the third gulfe of Europe, beginning, *The third, &c.*

The fift, containeth the deſcription of Affrick, and beginneth thus, *Affrick, &c.*

The ſixt, handleth the Coſmographie of Aſia, beginning thus, *The ſea called, &c.*

The ſeventh treateth of man, and his inventions, beginning, *Thus as you ſee, &c.*

The eight ſheweth unto us, land creatures, and their kinds, and beginneth after this manner, *Paſſe we now, &c.*

The ninth, laieth before us all fiſhes, and creatures of the water, beginning in this wiſe, *I have thus ſhewed, &c.*

The tenth ſpeakes of flying fouls and birds, and beginneth thus, *It followeth, &c.*

The eleventh telleth us of Inſects, and beginneth thus, *It remaineth now, &c.*

The twelfth treateth of drugs & odoriferous plants, beginning, *Thus you, &c.*

The thirteenth deſcribeth ſtraunge and forreine trees: beginning with theſe words, *Thus far forth, &c.*

The fourteenth ſheweth of vine-plants, &c. beginning thus, *Thus far forth, &c.*

The fifteenth comprehendeth all fruitfull trees, thus beginning, *There were, &c.*

The ſixteenth deſcribeth unto us all wild trees, beginning with, *Hitherto, &c.*

The ſeventeenth containeth tame trees within hortyards, and beginneth with theſe words, *As touching the nature, &c.*

The eighteenth booke treateth of the nature of corne, and all ſorts thereof, togither with the profeſsion of husbandmen, and agriculture, beginning after this manner, *Now followeth, &c.*

The nineteenth diſcourſeth of Flax, Spart, and Gardenage, beginning after this manner, *In the former booke, &c.*

The twentith ſheweth of garden herbs, good to ſerve both the kitchin for meat, and the Apothecaries ſhop for medicine, & beginneth thus, *Now will we, &c.*

The one and twentie treateth of flours & garlands, and beginneth, *In Cato, &c.*

The two and twentie containeth the chaplets and medecines made of hearbs, with this beginning, *Such is the perfection, &c.*

The three and twentie ſheweth the medicinable vertues of wine, and tame trees growing in hortyards, beginning thus, *Thus have we, &c.*

The foure and twentie declareth the properties of wild trees ſerving in phyſick, beginning thus, *Nature, &c.*

The five and twentie treateth of the hearbs in the field comming up of their owne accord, and thus beginneth, *The excellencie, &c.*

The ſix and twentie ſheweth of many nevv and ſtraunge maladies, the medicinable vertues alſo of certaine hearbs, according to ſundrie diſeaſes, beginning thus, *The verie face, &c.*

The ſeven and twentie goeth forvvard to certaine other hearbs and their medecines, and thus beginneth, *Certes, &c.*

The eight and twentie ſetteth downe certaine receits of remedies in phyſicke, drawne from out of man and other bigger creatures, and it beginneth in this manner, *Heretofore, &c.*

The nine and tvventie treateth of the firſt authours and inventors of Phyſicke, alſo of medecines taken from other creatures, & beginneth, *The nature, &c.*

The thirtith booke ſpeaketh of Magicke, and certaine medecines appropriat to the parts and members of mans bodie, beginning thus, *The vanitie, &c.*

The one and thirtie containeth the medicinable vertues of fiſhes & vvater creatures, vvith this beginning, *Now follow, &c.*

The tvvo and thirtie ſhevveth other properties of fiſhes, &c. and beginneth in this manner, *Now are we come, &c.*

The three and thirtie treateth of gold and ſilver mines, and hath this beginning, *Time it is, &c.*

The foure and thirtie ſpeaketh of copper and braſſe mines, alſo of lead, alſo of excellent braſſe-founders and vvorkemen in copper, beginning after this manner, *In the next place, &c.*

The five and thirtie diſcourſeth of painting, colour, and painters, beginning in this ſort, *The diſcourſe, &c.*

The ſix and thirtie treateth of marble and ſtone for building, and hath this beginning, *It remaineth, &c.*

The ſeven and thirtie concludeth vvith pretious ſtones, and beginneth at theſe vvords, *To the end that, &c.*

IN THE SECOND BOOKE IS CONTAINED the diſcourſe of the World, of cœleſtiall impreſsions and meteors, *as alſo of them that appeare in the Aire, and upon Earth.*

Chap.

1. Whether the World bee finite and limited within certaine dimenſions or no? whether there be many, or but one?
2. The forme and figure of Heaven and the World.
3. The motion of heaven.
4. Why the world is called Mundus?
5. Of the Elements.
6. Of the ſeven Planets.
7. Concerning God.
8. The nature of the fixed ſtarres and planets: their courſe and revolution.
9. The nature of the Moone.
10. The eclipſe of Sun and Moone: alſo of the night.
11. The bigneſſe of ſtarrs.
12. Divers inventions of men and their obſervations touching the cœleſtiall bodies.
13. Of Eclipſes.
14. The motion of the Moone.
15. Generall rules or canons touching planets or lights.
16. The reaſon why the ſame planets ſeeme higher or lower at ſundrie times.
17. Generall rules concerning the planets or wandring ſtars.
18. What is the cauſe that planets chaunge their colours?
19. The courſe of the Sun: his motion: and from whence proceedeth the inequalitie of daies.
20. Why lightnings be aſſigned to *Iupiter*.
21. The diſtances betweene the planets.
22. The harmonie of ſtars and planets.
23. The geometrie and dimenſions of the world.
24. Of ſtars appearing ſodainly.
25. Of comets or blaſing ſtars, and other prodigious appearanees in the skie: their nature, ſituation, and ſundrie kinds.
26. The opinion of *Hipparchus* the Phioſopher as touching the ſtars, fire-lights, lamps, pillars or beams of fire, burning darts, gapings of the skie, and other ſuch impreſſions, by way of example.
27. Straunge colours appearing in the firmament.
28. Flames and leams ſeen in the skie.
29. Circles or guirlands ſhewing above.
30. Of cœleſtiall circles & guirlands that continue not, but ſoone paſſe.
31. Of many Suns.
32. Of many Moons.
33. Of nights as light as day.
34. Of meteors reſembling fierie targuets.
35. A ſtraunge and woonderfull apparition in the skie.
36. The extraordinarie ſhooting and motion of ſtars.
37. Of the ſtars named Caſtor and Pollux.
38. Of the Aire.
39. Of certaine ſet times and ſeaſons.
40. The power of the Dog-ſtar.
41. The ſundrie influences of ſtars according to the ſeaſons and degrees of the ſigns.
42. The cauſes of raine, wind, and clowds.
43. Of thunder and lightning.
44. Whereupon commeth the redoubling of the voice, called Echo.
45. Of winds againe.
46. Divers conſiderations obſerved in the nature of winds.
47. Many ſorts of winds.
48. Of ſodaine blaſts and whirle-puffs.
49. Other ſtrange kinds of tempeſts & ſtorms.
50. In what regions there fall thunderbolts.
51. Divers ſorts of lightnings, and wonderous accidents by them occaſioned.
52. The obſervations [of the Tuſcanes in old time] as touching lightning.
53. Conjuring for to raiſe lightning.
54. Generall rules concerning leames and flaſhes of lightning.
55. What things be exempt and ſecured from lightning and thunderbolts.
56. Of monſtrous and prodigious ſhowres of raine,

Chap.
raine, namely of milke, bloud, fleſh, yron, wooll, bricke, and tyle.
57. The rattling of harneſſe and armour: the ſound alſo of trumpets heard from heaven.
58. Of ſtones falling from heaven.
59. Of the Rainbow.
60. Of Haile, Snow, Froſt, Miſts, and Dew.
61. Of divers formes and ſhapes repreſented in clowds.
62. The particular properties of the skie in certaine places.
63. The nature of the Earth.
64. The forme and figure of the earth.
65. Of the Antipodes: and whether there bee any ſuch. Alſo, as touching the roundneſſe of the water.
66. How the water reſteth upon the earth.
67. Of Seas and rivers navigable.
68. What parts of the earth be habitable.
69. That the earth is in the mids of the world.
70. From whence proceedeth the inequalitie obſerved in the riſing and elevation of the ſtars. Of the eclipſe: where it is, & wherfore.
71. The reaſon of the day-light upon earth.
72. A diſcourſe thereof according to the Gnomon: alſo of the firſt Sun-dyall.
73. In what places and at what times there are no ſhadows caſt.
74. Where the ſhadows fall oppoſite and contrarie twice in the yeere.
75. Where the dayes bee longeſt, and where ſhorteſt.
76. Likewiſe of Dyals and Quadrants.
77. The divers obſervations and acceptations of the day.
78. The diverſities of regions, and the reaſon thereof.
79. Of Earthquake.
80. Of the chinks and opening of the earth.
81. Signes of earthquake toward.
82. Remedies and helps againſt earthquakes comming.
83. Straunge and prodigious woonders ſeene one time in the earth.
84. Miraculous accidents as touching earthquake.
Chap.
85. In what parts the ſeas went backe.
86. Iſlands appearing new out of the ſea.
87. What Iſlands have thus ſhewed, and at what times.
88. Into what lands the ſeas have broken perforce.
89. What Iſlands have ben joyned to the continent.
90. What lands have periſhed by water and become all ſea.
91. Of lands that have ſettled and beene ſwallowed up of themſelves.
92. What citties have beene overflowed and drowned by the ſea.
93. Woonderfull ſtraunge things as touching ſome lands.
94. Of certaine lands that alwaies ſuffer earthquake.
95. Of Iſlands that flote continually.
96. In what countries of the world it never raineth: alſo of many miracles as well of the earth as other elements hudled up pell mell togither.
97. The reaſon of the Sea-tides, as well ebbing as flowing, and where the ſea floweth extraordinarily.
98. Wonderfull things obſerved in the Sea.
99. The power of the Moone over Sea and land.
100. The power of the Sun: and the reaſon why the ſea is ſalt.
101. Moreover, as touching the nature of the Moone.
102. Where the ſea is deepeſt.
103. Admirable obſervations in freſh waters, as well of fountains as rivers.
104. Admirable things as touching fire and water joyntly togither: alſo of Maltha.
105. Of Naphtha.
106. Of certaine places that burne continually.
107. Wonders of fire alone.
108. The dimenſion of the earth as well in length as in breadth.
109. The harmonicall circuit & circumference of the world.

In ſum, there are in this booke of hiſtories, notable matters, and worthie obſervations, foure hundred and eighteene in number.

Latine Authors alledged in this booke.

M. Varro, Sulpitius Gallus, Tiberius Cæſar Emperour, Q. Tubero, Tullius Tiro, L. Piſo, T. Livius, Cornelius Nepos, Statius, Seboſus, Cæſius Antipater, Fabianus, Antias, Mutianus, Cecina, (who wrote of the Tuſcan learning) Tarquitius, L. Aquila, and Sergius Paulus.

Forreine Authours cited.

Plato, Hipparchus, Timæus, Sosigenes, Petosiris, Necepsus, the Pythagoreans, Posidonius, Anaximander, Epigenes, Gnomonicus, Euclides, Ceranus the Philosopher, Eudoxus, Democritus, Crisodemus, Thrasillus, Serapion, Dicæarchus, Archimedes, Onesicritus, Eratosthenes, Pytheas, Herodotus, Aristotle, Ctesias, Artemidorus the Ephesian, Isidorus Characenus, and Theopompus.

¶ IN THE THIRD BOOKE ARE COMPREHENded the regions, nations, seas, towns, havens, mountains, rivers, with their measures, and people, either at this day knowne or in times *past, as followeth.*

Chap.
1. Of Europe.
2. The length and breadth of Bœtica, a part of Spaine, containing Andalusia, and the realme of Grenado.
3. That hither part of Spaine, called of the Romans Hispania Citerior.
4. The province Narbonensis, wherein is Dauphine, Languedoc, and Provance.
5. Italie, Tiberis, Rome, and Campaine.
6. The Island Corsica.
7. Sardinia.
8. Sicilie.
9. Lipara.
10. Of Locri, and the frontiers of Italie.
11. The second gulfe of Europe.
12. The fourth region of Italie.

Chap.
13. The fifth region.
14. The sixth region.
15. The eigth region.
16. Of the river Po.
17. Of Italie beyond the Po, counted the eleventh region.
18. Venice, the tenth region.
19. Of Istria.
20. Of the Alps, and the nations there inhabiting.
21. Illyricum.
22. Liburnia.
23. Macedonie.
24. Noricum.
25. Pannonie and Dalmatia.
26. Mœsia.

In this booke are described 26 Islands within the Adriaticke and Ionian seas: their principall cities, towns and nations. Also the chiefe and famous rivers: the highest hills: speciall Islands besides: towns and countries that be perished. In sum, here are comprised notable things, histories, matters memorable, and observations to the number of 326.

Latine Writers brought in for testimonie.

Turannius Graccula, Cor. Nepos, T. Livius, Cato Censorius, M. Agrippa, M. Varro, Divus Augustus the Emperour, Varro Attacinus, Antias, Hyginus, L. Vetus, Mela Pomponius, Curio the father, Cœlius Aruntius, Sebosus, Licinius Mutianus, Fabricius Thuscus, L. Atteius Capito, Verrius Flaccus, L. Piso, C. Ælianus, and Valerianus.

Forreine Authours.

Artemidorus, Alexander Polyhistor, Thucydides, Theophrastus, Isidorus, Theopompus, Metrodorus Scepsius, Callicrates, Xenophon, Lampsacenus, Diodorus Syracusanus, Nymphodorus, Calliphanes, and Timagenes.

¶ IN THE FOVRTH BOOKE ARE COMPRISED regions, nations, seas, townes, hills, havens, rivers, with their dimen*sions and people, either now or in times past knowne: viz.*

Chap.
1. Epirus.
2. Ætolia.
3. Locri.

Chap.
4. Peloponnesus.
5. Achaia.
6. Arcadia.

Chap.
7. Greece, and Attica.
8. Thessalie.
9. Magnesia.
10. Macedonia.
11. Thracia.
12. The Islands lying between those countries: among which, Creta, Eubœa, the Cyclads, Sporades: also the Isles within Hellespont neare the sea Pontus, within Mœotis, Dacia, Sarmatia, and Scythia.
13. The Islands of Pontus, called Mer Major.
14. The Islands of Germanie.
15. Islands in the French Ocean.
16. Britaine and Ireland.
17. Gaule or Fraunce.
18. Of Gallia Lugdunensis.
19. Of Aquitaine.
20. Of high Spaine, named Citerior.
21. Of Portugall.
22. Islands in the Ocean.
23. The dimension and measure of all Europe.

Herein are contained many principall townes and countries, famous rivers; Islands also, besides cities or nations that be perished: in sum, divers things, histories, and observations.

Latine Authours cited.

M. Varro, Cato Censorius, M. Agrippa, Divus Augustus, Varro Atacinus, Cor. Nepos, Hyginus, L. Vetus, Pomponius Mela, Licinius Mutianus, Fabricius Thuscus, Atteius Capito, and Atteius Philologus.

Of forreine Writers.

Polybius, Hecatæus, Hellanicus, Damastes, Eudoxus, Dicæarchus, Timosthenes, Ephorus, Crater, Grammaticus, Serapion of Antioch, Callimachus, Artemidorus, Apollodorus, Agathocles, Eumachus Siculus the musician, Alexander Polyhistor, Thucydides, Dositades, Anaximander, Philistides, Mallotes, Dionysius, Aristides, Callidemus, Menæchmus, Ædasthenes, Anticlides, Heraclides, Philemon, Menephon, Pythias, Isidorus, Philonides, Xenagoras, Astyonomus, Staphylus, Aristocritus, Metrodorus, Cleobulus, and Posidonius.

IN THE FIFTH BOOKE ARE CONTAINED

Regions, Nations, Seas, Towns, Hills, Rivers, with their measures, and people, either at this day beeing, or in times *past: that is to say,*

Chap.
1. Mauritania.
2. The province Tingitana.
3. Numidia.
4. Affricke.
5. Cyrene.
6. Lybia Maræotis.
7. Islands lying about Affricke, & over-against Affricke.
8. The Æthiopians.
9. Asia.
10. Alexandria.
11. Arabia.
12. Syria, Palæstina, Phœnice.
13. Idumæa, Syria, Palæstina, Samaria.
14. Iudæa, Galilea.
15. Iordan the river.
16. The lake Asphaltites.
17. The Essenes.
18. The countrey Decapolis.
19. Tyrus and Sidon.
20. The mount Libanus.
21. Syria Antiochena.
22. The mountaine Casius.
23. Cœle-Syria.
24. The river Euphrates.
25. The region Palmyra.
26. Hierapolis the countrey.
27. Cilicia and the nations adjoyning: Pamphilia, Isauria, Homonades, Pisidia, Lycaonia, the mountaine Taurus, and Lycia.
28. The river Indus.
29. Laodicea, Apamia, Ionia, and Ephesus.
30. Æolis, Troas, Pergamus.
31. Islands affront Asia, the Pamphylian Sea. Rhodus, Samus, and Chius.
32. Hellespont, Mysia, Phrygia, Galatia, Nicea, Bithynia, Bosphorus.

Herein

Herein you find townes and nations, Principall Rivers, Famous Hils, Iſlands, 117. Townes alſo that are loſt and periſhed. In ſumme, many things, hyſtories and obſervations memorable.

Latine Authors alleadged.

Agrippa, Suetonius Paulinus, Varro Atacinus, Cornelius Nepos, Hyginus, L. Vetus, Mela, Domitius Corbulo, Licinius Mutianus, Claudius Cæſar, Aruntius, Livius the ſonne, *Seboſus*, the Acts and records of the Triumphs.

Forraine writers.

King *Iuba, Hecataus, Hellanicus, Damaſtes, Dicæarchus, Bion, Timoſthenes, Philonides, Xenagoras, Aſtynomus, Staphylus, Ariſtotle, Dionyſius, Ariſtocritus, Ephorus, Eratoſthenes, Hipparchus, Panætius, Serapion Antiochenus, Callimachus, Agathocles, Polybius, Timæus the Mathematician, Herodotus, Myrſilus, Alexander Polyhiſtor, Metrodorus, Poſidonius who wrate Periplus or Periegeſis, Sotades, Periander, Ariſtarchus Sicyonius, Eudoxus, Antigenes, Callicrates, Xenophon Lampſacenus, Diodorus Syracuſanus, Hanno, Himilco, Nymphodorus, Calliphon, Artemidorus, Megaſthenes, Iſidorus, Cleobulus, Ariſtocreon.*

IN THE SIXTH BOOKE ARE CONTAINED

Regions, Nations, Seas, Citties, Havens, Rivers, with their di-*menſions, People alſo that be or have been, to wit:*

Chap.

1. The ſea called Pontus Euxinus, beforetime Axenus.
2. The nations of the Paphlagones and Cappadocians.
3. Cappadocia.
4. The nations of the countrey Themiſcyra.
5. The region Colchica. The Achæi, and the reſt in that tract.
6. Boſphorus Cimmerius, and Mœotis.
7. The people about Mœotis.
8. The Armeniæ both.
9. Armenia the greater.
10. Albania, Iberia.
11. The ſcluſes and gates Caucaſiæ.
12. Iſlands in Pontus.
13. Nations about the Scythian Ocean.
14. Media and the gates or ſtreights Caſpiæ.
15. Nations about the Hircane ſea.
16. Alſo other nations confining upon that countrey.
17. People of Scythia.
18. The river Ganges.
19. The nations of India.

Chap.

20. The river Indus.
21. The Arians, and the nations bordering upon them.
22. The Iſland Taprobane.
23. Capiſſene, Carmænia.
24. The Perſian and Arabian gulfes.
25. The Iſland Caſſandrus, and kingdomes of the Parthians.
26. Media, Meſopotamia, Babylon, Seleucia.
27. The river Tigris.
28. Arabia, Nomades, Nabathæi, Omani, Tylos and Ogyris two Iſlands.
29. The goulfes of the red ſea, the Troglodite and Æthyopian ſeas.
30. Divers nations of ſtraunge and wonderfull ſhapes.
31. Iſlands of the Æthyopian ſea.
32. Of the fortunat Iſlands.
33. The diviſion of the earth calculated by meaſures.
34. A diviſion of the earth by climates, lines parallele, and equall ſhaddowes.

Townes of name. 195. Nations of account. 566. Famous rivers. 180. Notable hils. 38. Nine Principall Iſlands. 108. Cities and nations periſhed. 195. In ſumme, there are rehearſed in this booke of other things, hiſtories and obſervations. 2214.

Latine Authors alleadged.

M. Agrippa, Varro Atacinus, Cornelius Nepos, Hyginus, Lu. Vetus, Mela Pomponius, Domitius Corbulo, Licinius Mutianus, Claudius Cæſar, Arunitius Seboſus, Fabricius Thuſcus, T. Livius, Seneca, Nigidius.

Forraine

Forraine Writers.

King Iuba, Polybius, Hecataeus, Hellanicus, Damastes, Eudoxus, Dicæarchus, Beto, Timosthenes, Patrocles, Demodamas, Clitarchus, Eratosthenes, Alexander Magnus, Ephorus, Hipparchus, Panætius, Callimachus, Artemidorus, Apollodorus, Agathocles, Polybius, Eumachus Siculus, Alexander Polyhistor, Amometus, Metrodorus, Posidonius, Onesicritus, Nearchus, Megasthenes, Diognetus, Aristocreon, Bion, Dialdon, Simonides the younger, *Basiles*, and *Xenophon Lampsacenus*.

¶ IN THE SEVENTH BOOKE ARE CONTAINED the woonderfull shapes of men in *diverse countries*.

Chap.

1. The strange formes of many nations.
2. Of the Scythians, and other people of diverse countries.
3. Of monstrous and prodigious births.
4. The transmutation of one sex into another. Also of twins.
5. Of the generation of man. The time of a womans childbearing, from seven moneths to eleven, proved by notable examples out of hystories.
6. Of conceptions, and children within the wombe. The signes how to know whether a woman goe with a sonne or a daughter, before she is delivered.
7. Of the conception and generation of man.
8. Of Agrippæ, *i.* those who are borne with the feet forward.
9. Of straunge births, namely, by means of incision, when children are cut out of their mothers wombe.
10. Of Vopisci, *i.* such as being twins were born alive, notwithstanding the one of them was dead before.
11. Hystories of many children borne at one burden.
12. Examples of those that were like one to another.
13. The cause and manner of generation.
14. More of the same matter and argument.
15. Of womens monthly tearmes.
16. The manner of sundrie births.
17. The proportion of the parts of mans body and notable things therein observed.
18. Examples of extraordinarie shapes.
19. Straunge natures of men.
20. Of bodily strength and swiftnesse.
21. Of excellent sight.
22. Who excelled in hearing.
23. Examples of patience.
24. Who were singular for good memorie.
25. The praise of *C. Iulius Cæsar*.

Chap.

26. The commendation of *Pompey* the Great.
27. The praise of *Cato*, the first of that name.
28. Of valour and fortitude.
29. Of notable wits, or the praises of some for their singular wit.
30. Of *Plato*, *Ennius*, *Virgill*, *M. Varro*, and *M. Cicero*.
31. Of such as carried a majestie in their behaviour.
32. Of men of great authoritie and reputation.
33. Of certaine divine and heavenly persons.
34. Of *Scipio Nasica*.
35. Of Chastitie.
36. Of Pietie, and naturall kindnesse.
37. Of excellent men in diverse sciences, and namely, in Astrologie, Grammer, and Geometrie, &c.
38. *Item*, Rare peeces of worke made by sundry artificers.
39. Of servants and slaves.
40. The excellencie of diverse nations.
41. Of perfect contentment and felicitie.
42. Examples of the variety and mutabilitie of fortune.
43. Of those that were twice outlawed and banished: of *L. Sylla* and *Q. Metellus*.
44. Of another *Metellus*.
45. Of the Emperour *Augustus*.
46. Of men deemed most happie above all others by the Oracles of the gods.
47. Who was cannonized a god whiles hee lived upon the earth.
48. Of those that lived longer than others.
49. Of diverse nativities of men.
50. Many examples of straunge accidents in maladies.
51. Of the signes of death.
52. Of those that revived when they were caried forth to be buried.
53. Of suddaine death.
54. Of sepulchres and burials.

55. Of

Chap.
55. Of the ſoule: of ghoſts and ſpirits.
56. The firſt inventors of many things.
57. Wherein all nations firſt agreed.
58. Of antique letters.
59. The beginning of Barbars firſt at Rome.
60. The firſt deviſers of Dials and Clockes.

In ſumme, there be in this booke of ſtories ſtraunge accidents and matters memorable 747.

Latine Authors alledged.

Verrius Flaccus, Cn. Gellius, Licinius Mutianus, Mutius, Maßurius, Agrippina wife of Claudius, M. Cicero, Aſinius Pollio, Meßala, Rufus, Cornelius Nepos, Virgil, Livie, Cordus, Meliſſus, Seboſus, Cornelius Celſus, Maximus Valerius, Trogus, Nigidius Figulus, Pomponius Atticus, Pedianus Aſconius, Sabinus, Cato Cenſorius, Fabius Veſtalis.

Forraine Writers.

Herodotus, Ariſteas, Beto, Iſigonus, Crates, Agatharcides, Calliphanes, Ariſtotle, Nymphodorus, Apollonides, Philarchus, Damon, Megaſthenes, Cteſias, Tauron, Eudoxus, Oneſicratus, Clitarchus, Duris, Artemidorus, Hippocrates the Phyſician, Aſclepiander the Phyſician, Heſiodus, Anacreon, Theopompus, Hellanicus, Damaſthes, Ephorus, Epigenes, Bereſus, Peſsiris, Necepſus, Alexander Polyhiſtor, Xenophon, Callimachus, Democritus, Duillius, Polyhiſtor the Hiſtorian, Strato who wrate againſt the Propoſitions and Theoremes of Ephorus, Heraclides Ponticus, Aſclepiades who wrote Tragodamena, Philoſtephanus, Hegeſias, Archimachus, Thucydides, Mneſigiton, Xenagoras, Metrodorus Scepſius, Anticlides, and Critodemus.

¶ IN THE EIGTH BOOKE ARE CONtained the natures of land beaſts *that goe on foot.*

Chap.
1. Of land creatures: The good and commendable parts in Elephants: their capacitie and underſtanding.
2. When Elephants were firſt yoked and put to draw.
3. The docilitie of Elephants, and their aptneſſe to learne.
4. The clemency of Elephants: that they know their owne daungers. Alſo of the felneſſe of the Tigre.
5. The perceivance and memory of Elephants.
6. When Elephants were firſt ſeene in Italie.
7. The combats performed by Elephants.
8. The manner of taking Elephants.
9. The manner how Elephants be tamed.
10. How long an Elephant goeth with young, and of their nature.
11. The countries where Elephants breed: the diſcord and warre betweene Elephants and Dragons.
12. The induſtrie & ſubtill wit of Dragons and Elephants.
13. Of Dragons.
14. Serpents of prodigious bigneſſe: of Serpents named Boæ.
15. Of beaſts engendered in Scythia, and the North countries.
16. Of Lions.
17. Of Panthers.
18. The nature of the Tygre: of Camels, and the Pard-Cammell: when it was firſt ſeene at Rome.
19. Of the Stag-Wolfe named Chaus: and the Cephus.
20. Of Rhinoceros.
21. Of Onces, Marmoſets called Sphinges, of the Crocutes, of common Marmoſets, of Indian Bœufes, of Leucrocutes, of Eale, of the Æthyopian Bulls, of the beaſt Mantichora, of the Licorne or Vnicorne, of the Catoblepa, and the Baſiliske.
22. Of Wolves.
23. Of Serpents.
24. Of the rat of India called Ichneumon.
25. Of the Crocodile, the Skinke, and the River-horſe.
26. Who ſhewed firſt at Rome the Water-horſe and the Crocodiles. Diverſe reaſons in Phyſicke found out by dumbe creatures.
27. Of beaſts and other ſuch creatures which have taught us certaine hearbes, to wit, the red Deere, Lizards, Swallowes, Tortoiſes, the

Chap.
the Weasell, the Stork, the Bore, the Snake, the Panther, the Elephant, Beares, Stocke-Doves, House-Doves, Cranes, and Ravens.
28. Prognostications of things to come, taken from beasts.
29. What cities and nations have ben destroied by small creatures.
30. Of the Hiæna, the Crocuta and Mantichora: of Bievers and Otters.
31. Of Frogs, Sea or sea-Calves, and Stellions.
32. Of Deere both red and fallow.
33. Of the Tragelaphis: of the Chamæleon, and other beasts that chaunge colour.
34. Of the Tarand, the Lycaon, and the Wolfe called Thoes.
35. Of the Porc-espines.
36. Of Beares, and how they bring forth their whelpes.
37. The rats and mice of Pontus and the Alps: also of Hedgehogs.
38. Of the Leontophones, the Onces, Graies,
Chap.
Badgers, and Squirrels.
39. Of Vipers, Snailes in shels, and Lizards.
40. Of Dogs.
41. Against the biting of a mad dog.
42. The nature of Horses.
43. Of Asses.
44. Of Mules.
45. Of Kine, Buls, and Oxen.
46. Of the Bœuse named Apis.
47. The nature of sheepe, their breeding and generation.
48. Sundrie kinds of wooll and cloths.
49. Of sheepe called Musmones.
50. Of Goats and their generation.
51. Of Swine and their nature.
52. Of Parkes and Warrens for beasts.
53. Of beasts halfe tame and wild.
54. Of Apes and Monkies.
55. Of Hares and Connies.
56. Of beasts halfe savage.
57. Of Rats and mice: of Dormice.
58. Of beasts that live not in some places.
59. Of beasts hurtfull to straungers.

In summe, there be in this Booke principall matters, stories, and obseruations worth the remembrance 788.

Latine Authors alleadged.

Mutianus, Procilius, Verrius Flaccus, L. Piso, Cornelius Valerianus, Cato Censorius, Fenestella, Trogus, Actius, Columella, Virgil, Varro, Lu. Metellus Scipio, Cornelius Celsus, Nigidius, Trebius Niger, Pomponius Mela, Manlius Sura.

Forraine writers.

King Iuba, Polybius, Onesicritus, Isidorus, Antipater, Aristotle, Demetrius the naturall Philosopher, Democritus, Theophrastus, Euanthes, Agrippa who wrote of the Olympionicæ, Hiero, king Attalus, king Philometer, Ctesias, Duris, Philistus, Architas, Philarchus, Amphilochus the Athenian, Anaxipolis the Thasian, Apollodorus of Lemnos, Aristophanes the Milesian, Antigonus the Cymæan, Agathocles of Chios, Apollonicus of Pergamus, Aristander of Athens, Bacchus the Milesian, Bion of Soli, Chæreas the Athenian, Diodorus of Pyreæum, Dio the Colophonian, Epigenes of Rhodes, Evagon of Thassus, Euphranius the Athenian, Hegesias of Maronea, Menander of Pyreæum, Menander also of Heraclea, Menecrates the Poet, Androcion who wrote of Agriculture or Husbandrie, Aeschrion who likewise wrote of that argument, Dionysius who translated Mago, Diophanes who collected an Epitome or Breviarie out of Dionysius, king Archelaus, and Nicander.

IN THE NINTH BOOKE ARE CONTAIned the stories and natures of Fishes *and water-creatures.*

Chap.
1. The nature of water-creatures.
2. The reason why the creatures of the sea are of all other biggest.
3. The monstrous beasts of the Indian sea.
Chap.
4. The greatest fishes and beasts in everie part of the Ocean.
5. Of Tritones, Nereides, and sea Elephants: their shapes and formes.

6. Of

Chap.
6. Of great Whales, called Balænæ and Orcæ.
7. Whether fiſhes doe take and deliver their breath? whether they ſleepe or no?
8. Of Dolphins and their wonderfull properties.
9. Of the Turſiones.
10. Of the ſea Tortoiſes, and how they bee taken.
11. Who firſt deviſed to ſlive the Tortoiſe ſhels into leaves.
12. The skins and ſhels of the ſea creatures: the diviſion of them into their ſeverall kinds.
13. Of the Seale or ſea Calfe.
14. Of fiſhes ſmooth and without haire: how they ſpawn and breed: and how many ſorts there be of them.
15. The names and natures of many fiſhes.
16. The preſages by fiſhes, and their varietie.
17. Of the Mullet & other fiſhes. That the ſame fiſhes are not in requeſt in all places.
18. Of the Barble, the ſea Raven Coracinus: of Stockfiſh and Salmon.
19. Of the Exœcetus, Calamaries, Lampreies, &c.
20. The diviſion of fiſhes by the ſhapes of their bodies.
21. Of Eeles.
22. The manner of taking them in the lake Benacus.
23. The nature of the Lamprey.
24. Of flat and broad fiſhes.
25. Of the ſtay-ſhip Echeneis, and his wonderfull nature.
26. The changeable nature of fiſhes.
27. Of the fiſh called the Lanterne, and the ſea Dragon.
28. Of fiſhes wanting bloud.
29. Of the Pourcuttle, the Cuttle fiſh, the Calamarie, and the fiſh called the Sayler or Marriner.
30. The fiſh Ozæna, and Nauplius: alſo of Lobſtars.
31. Of Crabs, ſea Porkeſpines: and of the greater ſort named Echinometræ.
32. Of Wilkes, Cockles, and ſhell fiſhes.
33. Of Scallops, Porcellanes, of the ſhell fiſh Murex, and other ſuch.
34. The riches and treaſures of the ſea.

Chap.
35. Of pearles, how they be engendered, and where: alſo how they be found.
36. The nature of the Purple fiſh and the Burrets or Murices.
37. How many kinds there be of purple fiſhes.
38. How the purple fiſhes be taken.
39. When purple was firſt worne in the citie of Rome.
40. The price of purple cloths at Rome.
41. The dying of the Amethyſt colour, of the Skarlet in graine, and the light Skarlet Hyſginus.
42. Of the fiſh called the Nacre, and his guide or keeper Pinnoteres: alſo the intelligence of fiſhes and water creatures.
43. Of Scolopendres, ſea Foxes, and the fiſhes Glani.
44. Of the fiſh called the ſea Ram.
45. Of thoſe things which have a third nature, beeing neither living creatures, ne yet plants, to wit, of ſea Nettils and Spunges.
46. Of Houndfiſhes or ſea dogs.
47. Of ſea fiſhes that have ſtonie ſhels: of thoſe that have no ſence at all: of other naſtie and filthie creatures.
48. Of ſea fiſhes venomous.
49. The diſeaſes incident to fiſhes.
50. The admirable generation of fiſhes.
51. *Item*, Another diſcourſe of their generation: and what fiſhes they bee which doe lay egges.
52. The matrices or wombes of fiſhes.
53. What fiſhes live longeſt.
54. Of Oyſter pits, and who did firſt deviſe them.
55. Who firſt invented ſtewes and ponds to feed Lampreies in.
56. The ſtewes and ponds for other ſhell Fiſhes, and who brought them up firſt to be uſed.
57. Of fiſhes that haunt the land.
58. The rats of Nilus.
59. Of the fiſh called Anthias, and how hee is taken.
60. Of the ſea ſtarres.
61. Of the fiſhes Dactyli, and their admirable properties.
62. What fiſhes do entertaine amitie one with another, and which be ever at warre.

In ſumme, this Booke containeth ſtories, notable things, and obſervations, to the number of 650, collected

Out of

Out of Latine Authors.

Turanius Graccula, Trogus, Mecœnas, Alfius Flavus, Cornelius Nepos, Laberius, the writer of merry Epigrams, Fabianus, Feneſtella, Mutianus, Aelius Stilo, Statius Sebaſius, Meliſſus, Seneca, Cicero, Macer Aemylius, Meſſala Corvinus, Trebius Niger, and Nigidius.

Out of Forraine Writers.

Ariſtotle, king Archelaus, Callimachus, Democritus, Theophraſtus, Thraſyllus, Hegeſidemus of Cythnos, and Alexander Polyhiſtor.

¶ IN THE TENTH BOOKE ARE CONTAINED the natures and ſtories of Foules and *flying creatures.*

Chap.

1. The nature of Foules.
2. Of the Phœnix.
3. Of Ægles.
4. When the Romane legions uſed the Æagle ſtanderd, and other enſignes. Alſo with what creatures Ægles maintaine fight.
5. A ſtrange and woonderfull caſe as touching an Ægle.
6. Of the Vultures or Geires.
7. Of the foule Sangualis.
8. Of Faulcons and Hawkes.
9. Of the Cuckow, which is killed by birds of her owne kind.
10. Of Kites or Puttockes.
11. A diviſion of birds into generall kinds.
12. Of unluckie and ominous birds, the Crow, the Raven, and the Like-owle.
13. Of the foule that carieth fire in her mouth.
14. Of the bird Clivina.
15. Of many birds unknowne.
16. Of foules that flie by night.
17. Of Howlets.
18. Of the Wood-pecker.
19. Of birds which have clawes and crooked tallons.
20. Of Peacockes: and who killed them firſt for to be ſerved at the table.
21. Of Cockes: how they be cut: of a dunghill cocke that ſpake.
22. Of Geeſe: who firſt deviſed to make a daintie diſh of the Gooſe liver: the gravie or fat of Geeſe, called Comagenum.
23. Of Cranes, Storkes, Swans, ſtraunge fouls of outlandiſh countries, of Quailes, and the bird Glotis.
24. Of Swallowes and Martins, of Blackbirds, Thruſhes, and Merles, of Sterlings, Turtle-doves, and Quoiſts or Ringdoves.
25. Of birds that tarie with us all the year long, of birds that be for halfe a yeare only, and others that remaine but three months.
26. Marvellous ſtories of birds.
27. Of the birds called Seleucides.
28. Of the foule Ibis.
29. What birds will not abide in all places: which they be that chaunge both hew and voice: alſo of Nightingales.
30. Of Merles or Ouſels.
31. The time wherein birds breed, lay, and ſit.
32. Of the birds Halciones, the navigable daies that they doe ſhew: of the Sea-guls and Cormorants.
33. The induſtrie and ſubtiltie of birds in building their neaſts: of the ordinarie Swallow, the river Swallow Argatilis: the birds Cinnamologi that ſteale Cinnamon, and of Partridges.
34. Of Houſe doves.
35. Of Stock-doves.
36. Of Sparrowes.
37. Of the Keſtrell or Stannell.
38. Of the flight and gate of birds.
39. Of certaine footleſſe Martinets, called Apodes.
40. Of certain Guls that milke and ſuck Goats udders, and be named Caprimulgi: alſo of Pelicanes named Plateæ.
41. The perceivance and naturall wit of birds.
42. Of the Linnet, Popinjay, or Parret, & ſuch birds that will learne to ſpeake.
43. The intelligence and underſtanding that Ravens have.
44. Of *Diomedes* his birds.
45. Of dull witted birds that will be taught nothing.
46. The manner how birds drinke.
47. Of foules called Himantipodes, and Onacrotali, and of other ſuch ſtrange birds.
48. The

Chap.
48. The names of many birds & their natures.
49. Of ſtraunge and new birds, ſuch alſo as bee holden for fabulous.
50. Who deviſed firſt to cram Hens & Capons; of bartons, mewes, and coupes to keep and feed foules, and the firſt inventour thereof.
51. Of *Æſopes* platter.
52. The generation of birds, and what fourfooted beaſts do lay egs as well as birds.
53. The knitting of egges within the bodie, the laying, couving and ſitting of them, the maner and time of birds engendering.
54. The accidents that befall to broodie birds whiles they ſit, and the remedies thereof.
55. Auguries and preſages by egges.
56. What Hens be of the beſt kind.
57. The diſeaſes incident to Hens, & the cure.
58. The maner how birds conceive: what number of egs they lay, & how many they hatch.
59. Of Peacockes and Geeſe.
60. Of Herons and Bitters. The way to preſerve and keepe egges.
61. The only bird that bringeth forth her yong alive, & feedeth the ſame at the pap with milk.
Chap.
62. The conception of the Viper, and how ſhe is delivered of her young, alſo what land creatures lay egges.
63. The ordinary generation of land creatures.
64. The diverſitie of living creatures in the maner of their engendering.
65. The yong ones that mice and rats do breed.
66. Whether of the marrow of a mans backe bone a ſerpent will engender.
67. Of the Salamander.
68. What things be engendered of thoſe that were never engendered, and contrariwiſe, what creatures they be, which being engendered themſelves, breed not.
69. The ſences of living creatures.
70. That fiſhes doe both heare and ſmell.
71. That the ſence of feeling is common to all living creatures.
72. What creatures live of poyſons, and eat earth.
73. Of the meat and drinke of diverſe creatures.
74. What creatures evermore diſagree: and which they bee that agree well together.
75. Of the ſleepe of living creatures.

This booke hath in it of notable matters, hyſtories and obſervations 904, gathered out of

Latine Authors and records.

Manilius, Cornelius Valerianus, the publicke records and regiſters, Vmbricius ſurnamed Melior, Maſſurius Sabinus, Antiſtius Labeo, Trogus Cremutius, M. Varro, Macer Aemylius, Meliſſus, Mutianus, Nepos, Fabius Pictor, T. Lucretius, Cornelius Celſus, Horatius, Deſalo, Hyſginus, Sarſennæ, both father and ſonne, Nigidius, and Manlius Sura.

Forraine Writers.

Homer, Phœmonoes, Philemon, Boethius who wrote a treatiſe called Ornithagonia, Hylas who made a diſcourſe of Auguries, Ariſtotle, Theophraſtus, Callimachus, Aeſchylus, Hiero, Philometor, Archytas, Amphilochus the Athenian, Anaxipolis the Thaſian, Apollodorus of Lemnos, Ariſtophanes the Mileſian, Antigonus the Cymæan, Agathocles of Chios, Apollonius of Pergamus, Ariſtander the Athenian, Bacchius the Mileſian, Bion of Soli, Chæreas the Athenian, Diodorus of Pryene, Dion the Colophonian, Democritus, Diophanes of Nicæa, Epigenes of Rhodes, Evagoras of Thaſos, Euphonius of Athens, king Iuba, Androcion who wrote of Husbandrie, and Aeſchrion likewiſe who wrote thereof, Dionyſius who tranſlated Mago, and Diophanes who reduced his worke into an Epitome, Nicander, Oneſicritus, Philarchus, and Heſiodus.

¶ IN THE ELEVENTH BOOKE ARE CONtained the ſtories and natures of ſmall creatures *and ſuch as creepe on the ground.*

Chap.
1. Of Inſects in generall.
2. The naturall induſtrie of thoſe Inſects.
3. Whether Inſects do breath, & whether they have bloud or no?
Chap.
4. The matter & ſubſtance of the Inſects bodie.
5. Of Bees.
6. The government and order which Bees keep by inſtinct of nature.

Chap.
7. Divers operations of the Bees, & the tearms thereto belonging.
8. Of what flowers Bees do make their cellars, combes, and other workes.
9. What persons tooke a great love to Bees, and delighted to nourish them.
10. The manner of Bees when they be at their businesse.
11. Of Drones.
12. The nature of Honey.
13. Which is the best Honey.
14. The severall and particular kinds of Honey in diverse places.
15. The markes and tokens of good Honey.
16. Of a third kind of Honey, and how a man should know good bees.
17. The regiment and pollicie that Bees observe.
18. Diverse sorts of Bees, and what things bee hurtfull to Bees.
19. The diseases incident to Bees.
20. How to keepe the cast of Bees when they swarme, that they flie not away, also how to recover Bees, in case their breed and race be lost.
21. Of Wespes and Hornets.
22. Of silke flies, their wormes and Iackes called Bombylis and Necydalus, and who first devised silke cloth.
23. Of the silkeworme in the Island Coos.
24. Of the Spiders and their generation.
25. Of Scorpions.
26. Of Stellions and Grashoppers.
27. In what countries there bee no Grashoppers, and where they sing not.
28. The wings of Insects, of Beetles and their kinds.
29. Of Locusts.
30. Of Ants or Pismires in Italie.
31. Of Indian Ants or Emmets.
32. The diverse sorts of Insects.
33. Of certaine creatures breeding of wood, and living of wood.

Chap.
34. Of a certain creature that hath no passage to void excrements.
35. Of Moths and Gnats.
36. Of flies living in the fire, named Pyrales or Pyraustæ.
37. A discourse Anatomicall of all parts and members of the bodie.
38. Of Bloud. Also in what creatures bloud wil soonest clutter and congeale, and whose will not at all. What creatures have the grossest and heaviest bloud, and which the finest and thinnest: and lastly, who have no bloud at all.
39. Whether the soveraignetie and excellencie of sence consisteth in bloud. Of the skin and hide, of the haires and dugs of living creatures.
40. What creatures have notable dugs or teats above the rest.
41. Of Milke, and what milke will make no cheese.
42. Divers kinds of Cheese.
43. How the lims and members of mans body differeth from other creatures.
44. The resemblance that Apes have to us.
45. Of Nailes.
46. Of Houfes.
47. Of birds feet and their clawes.
48. Of Insects feet, from two to an hundred.
49. Of Dwarfes in each kind, and the genitall parts.
50. Of Tailes.
51. Of Voices.
52. Of superfluous members of the bodie. The sayings of *Aristotle* as touching long life.
53. Of the wind & breath that living creatures take. What things if they bee tasted, bee venomous and deadly. The food of man, as well for meat as drinke. What causes they be that hinder digestion.
54. How to encrease or diminish the corpulencie of the bodie, and what things with taste onely, will allay hunger and quench thirst.

In summe, this Booke containeth notable things, stories, and obsevations, 2270.

Latine Authors cited.

M. Varro, Hyginus, Scropha, Sarcena, Celsus Cornelius, Aemilius Macer, Virgil, Columella, Iulius Aquila, who wrate of the Tuscane discipline, Tarquilius, who likewise wrote of the same, and Vmbritius that travelled in that argument, Cato Censorius, Domitius Calvinus, Trogus, Melissus, Favonius, Fabianus, Mutianus, Nigidius, Manilius, and Opius.

Forreine Writers.

*i. As touching the worke of Bees.

Aristotle, Democritus, Neoptolemus, who wrote Meliturgia, *Aristomachus, who likewise made a Treatise*

Treatiſe of the ſame, and Philiſtus alſo that did the like, Nicander, Menecrates, Dionyſius that tranſlated Mago, Empedocles, Callimachus, king Attalus, Apollodorus who wrote of venomous beaſts, Hippocrates, Eriphilus, Eraſiſtratus, Aſclepius, Themiſo, Poſidonius the Stoicke, the two Menanders, one of Priene and the other of Heraclea, Euphronius of Athens, Theophraſtus, Heſiodus, and king Philometor.

¶ IN THE TWELFTH BOOKE ARE CONTAINED diſcourſes of Trees.

Chap.

1. The honor done to trees, of the Plane trees: when they were firſt brought into Italy, and of their nature.
2. Of the dwarfe Planes growing low, and who was the firſt that cut and ſhred trees into arbours.
3. Of ſtraunge trees, and principally of the Citron tree in Aſſyria.
4. Of India trees, and when Ebene was firſt ſeen at Rome.
5. Of a certaine Thorne and Figgtree of India.
6. Of a tree named Pala: alſo of other Indian trees that are nameleſſe, and of thoſe that beare wooll and cotton.
7. Of Pepper trees and Clove trees, and manie others.
8. Of Macir or Sugar, and the trees growing in the region Ariana.
9. Of Bdellium, and of trees along the Perſian gulfe.
10. Of trees growing in the Iſland within the Perſian gulfe, and thoſe that beare Cotton.
11. Of Goſſampine trees, and thoſe which ſerve to make cloth, and wherein conſiſteth the fruit of certaine trees.
12. Of Coſtus, Spikenard, & divers ſorts of Nard.
13. Of Aſarabacca, Amomum, Amonius and Cardamomum.
14. Of Frankincenſe, & trees that yeeld Incenſe.
15. Of Myrrhe and Myrrhe trees.
16. Of ſundrie ſorts of Myrrhe, the nature ther-of and the price.
17. Of Maſticke, Ladanum, and Bruta, of Enhæmum, Strobus, and Styrax.
18. Of the felicitie and happineſſe of Arabia.
19. Of Cinnamon, and the wood ther of called Xylocinnamum, and of Caſia.
20. Of Iſocinnamon or Canel, of Caucamum and Tarum.
21. Of Serichatum, Gabalium, and Ben, otherwiſe called Myrobalanus.
22. Of Dates called Phœnicobalanus, & ſweet Calamus.
23. Of Ammoniacum, and the ſweet moſſe called Sphagdus or Viſnea.
24. Of Cyprus, Aſpalathus and Marum.
25. Of Baulme, as well the liquor called Opobalſamum, as the wood Xylobalſamum, of Storax and Galbanum.
26. Of Panace, Spondylium, and Malobathrum or Folium Indicum.
27. Of the oile of green Olives called Omphacium, and of Verjuice.
28. Of Bryon, and the wild Vine Oenanthe, of the Firre Elate, of Cinnamon, and the oyle of Nuts called Caryopus.

In ſumme, this booke containeth in it of notable matters, hyſtories, and obſervations, 974.

Latine Authours alleadged.

M. Varro, Mutianus, Virgil, Fabian, Seboſus, Pomponius Mela, Flavius Proculus, Trogus, Hyginus, Claudius Cæſar, Corneltus Nepos, Sextius Niger who wrate in Greeke of Phyſicke, Caſsius Hemina, L. Piſo, Tuditanus, and Antias.

Forreine Writers.

Theophraſtus, Herodotus, Calliſthenes, Iſidorus, Clitarchus, Anaximenes, Dioris, Nearchus, Oneſicratus, Polycritus, Olympiodorus, Diognetus, Nicobulus, Anticlides, Charax of Mitylene, Menechmus Dorotheus, Xenias the Athenian, Lycus, Antæus, Ephippus, Chæreas, Democles, Ptolemæus, Lagus, Marſyas the Macedonian, Zoilus likewiſe of Macedonie, Democritus, Amphilochus, Ariſtomachus, Alexander Polyhiſtor, king Iuba, Apollodorus the author of the treatiſe concerning ſweet odours, Heraclides the Phyſician, Archidemus likewiſe the Phyſician, Dionyſius, Democlides, Euphron, Obſenides, Diagoras, Poll. (alſi ſix Phyſicians) Heraclides of Tarentum, Xenocritus of Epheſus, and Eratoſthenes.

¶ IN THE THIRTEENTH BOOKE ARE CONtained Treatiſes of Ointments and of Trees *by the ſea ſide.*

Chap.
1. Of ſweet ointments & perfumes: when they came to bee firſt knowne at Rome, and of their compoſition.
2. What ointment was that which they called Roiall: which be Diapaſmate or drie perfumes, and how they be kept.
3. The roiotous and ſuperfluous expences that the Romanes were at for ſuch ointments: and when they were firſt taken up and uſed in Rome.
4. Of Palmes or Date trees, their nature and ſundrie ſorts.
5. The trees of Syria.
6. Of the Terebinth tree.
7. Of the Ægyptian Figtree or Sycomore, and that of Cypreſſe.
8. Of the fruit which is called Ceraunia Siliqua.
9. Of the Peach-tree or Perſica of Ægypt: and the Ægyptian thorn, wherof commeth Acacia.
10. Of the Plum tree and others about Memphis.
11. Sundrie ſorts of gums, and of the Papyr reed.
12. Divers kinds of Paper, how Paper is made, the triall of good Paper, the faults of Paper, and the paſte that goeth to the making of Paper.
13. The bookes of king *Numa*.
14. The trees of Æthyopia.
15. The trees of Atlas, Citron trees, what points are commendable or otherwiſe faultie therein.
16. Of the tree Thya.
17. Of the tree Lotos.
18. Of the bodie and root of Lotus.
19. Of Patyurus, of the Pomgranat, and the flower of the Pomgranat.
20. Of plants and ſhrubs in Aſia and Greece.
21. Of Thymelæa, Chamelæa, Tragacanthe, Tragium or Scorpio, of Tamariske, Brya, and Galla.
22. Of Euonymus or Spyndle tree, of Adrachne, Congygria, and Thapſia.
23. Of Capparis or Cynosbatos, or Opheoſtaphyle, and of Sari.
24. Of the royall thorne of Babylon, and Cytiſus or tree Trifolie.
25. Of ſhrubs and trees growing upon our Mediterranean ſeas, the red ſea, and the Indian ſea.

In ſumme, there be compriſed in this booke of notable things, ſtories, and obſervations, foure hundred fiftie and eight.

Latine Authors cited.

Marcus Varro, Mutianus, Virgil, Fabianus, Seboſus, Pomponius Mela, Flavius Proculus, Trogus, Hyginus, Claudius Cæſar, Cornelius Nepos, Sextius Niger, who wrote in Greeke of Phyſicke, Caſsius Hemina, L. Piſo, Tuditanus, and Antias.

Forraine writers.

Theophraſtus, Herodotus, Calliſthenes, Iſidorus, Clitarchus, Anaximenes, Duris, Nearchus, Oneſicritus, Policritus, Olympiodorus, Diognetus, Cleobulus, Anticlides, Charax the Mitylenæan, Menæchmus, Dorotheus, Xenias the Athenian, Lycus, Antæus, Ephippus, Dio, Adimanthus, Ptolomæus Lagus, Marſyas and Zoilus, both Macedonians, Democritus, Amphilochus, Alexander Polyhiſtor, Ariſtomachus, king Iuba, Apollodorus who wrate of Odours, Heraclides the Phyſician, Botrys, Archidemus, Dionyſius, Democlides, Euphron, Mneſicles, Diagoras and Iolla, Phyſicians all, Heraclides of Tarentum, and Xenocritus the Epheſian.

¶ IN

¶ IN THE FOVRTEENTH BOOKE ARE contained Treatiſes of Vine trees *and Vine-yards.*

Chap.
1. Of Vines and their nature, the manner how they beare grapes.
2. Sundry kinds of Vines in generall.
3. More kinds of Vines according to the propertie of countries where they grow.
4. Notable conſiderations as touching the planting and ordering of Vines.
5. The nature of wine.
6. The beſt and moſt kindly wines.
7. Wines outlandiſh and beyond ſea.
8. Of the wine called Biæon, ſeven kinds therof.
9. Of ſweet wines foureteene ſorts.
10. Of ſecond wines or houſhold wines.
11. What good wines began of late to bee in requeſt at Rome.
12. Obſervations of wine, ſet down by king *Romulus.*
13. The auncient uſage of wine, and the wines of old time.
14. Of cellars for wine, and the wine Opiminianum.
15. *Cæſars* liberalitie in wine, & when firſt there were foure ſorts of wine ſet downe.
16. Of artificiall or ſet wines.
17. Of Hydromell and Oxymell.
18. Prodigious and ſtrange kinds of wine.
19. What wines might not bee uſed in ſacrifices, and with what ſorts new wines are ſophiſticated.
20. Sundrie ſorts of Pitch and Roſin: of the manner of ſophiſticating new wines: of vinegre and wine lees.
21. Of wine cellars.
22. Of avoiding drunkenneſſe.

In ſumme, it containeth notable matters, hyſtories and obſervations 510, gathered out of

Latine Authors.

Cornelius Valerianus, Virgil, Celſus, Cato Cenſorius, Sarſennæs both father and ſonne, Scropha, Varro, Decimus Syllanus, Fabius Pictor, Trogus Hyginus, Flaccus Verrius, Græcinus Iulius, Accius, Columella, Maſurius Sabinus, Feneſtella, Tergilla, M. Actius Plautus, Fabius, Dorſennus, Scævola, Aelius, Atteius Capito, Cotta Meſſalinus, L. Piſo, Pompeius Lenæus, Fabianus, Sextius Niger, and Vibius Rufus.

Forraine Writers.

Heſiodus, Theophraſtus, Ariſtotle, Democritus, king Attalus, K. Philometer, Architas, Xenophon, Amphilochus the Athenian, Anaxipolis the Thaſian, Apollodorus the Lemnian, Ariſtophanes the Mileſian, Antigonus the Cymæan, Agathocles the Chian, Apollonius of Pergamus, Ariſtander of Athens, and likewiſe Batrys the Athenian, Bacchius the Mileſian, Bion of Soli, Chæreas the Athenian, and Cheriſtus likewiſe of Athens, Diodorus of Priene, Dio the Colophonian, Epigenes the Rhodian, Evagoras the Thaſian, Euphron of Athens, Androcion, Aeſerion and Lyſimachus, who wrote all three of Agriculture, Dionyſius who tranſlated Mago, Diophanes who brought Dionyſius into an Epitome, Aſclepiades the Phyſician, Oneſicritus, and king Iuba.

¶ THE FIFTEENTH BOOKE TREATETH OF the nature of trees fruitfull, and planted *in Hort-yards.*

Chap.
1. The nature of fruitfull trees.
2. Of the oyle of Olives.
3. The nature of the Olive & yong Olive trees.
4. The nature of the oile Olive.
5. The manner of husbanding Olive rowes.
6. How to keepe Olives and make oile thereof.
7. Of artificiall oile.
8. Of the dregs or Olive cake, being preſſed.
9. Of fruits of trees good to eat, their ſeverall kinds and natures.
10. Of Pine nuts foure kinds.
11. Of the Quince.

Chap.
12. Of Peaches foure ſorts.
13. Of Plums eleven kinds.
14. Sundrie kinds of Apples, and namely, nine and twentie ſorts.
15. Of Peares & Wardens: of ſundrie ſtrange deviſes to graffe trees.
16. Of preſerving & keeping Apples and ſuch like fruits.
17. The manner how to keepe Quinces, Pomgranats, Peares, Wardens, Sorviſes, and Grapes.
18. Of Figs nine and twentie ſorts.
19. Of the wild Figtree: of caprification or the manner how to bring Figgs to maturitie by the meanes of certaine flies.
20. Of Medlars, and three ſorts of them.
Chap.
21. Foure kinds of Sorvoiſes.
22. Of the Walnut.
23. Of Cheſtnuts eight kinds.
24. Of Charobs called Siliquæ, of Apples, of Mulberies, of Graines, Pippins and Kernils within fruits, alſo of berries.
25. Of Cherries eight ſorts.
26. Of the Corneill fruit, and Lentisks.
27. Sundrie ſorts of juices, and odours.
28. Of the iuices in fruits and trees: of colours, ſmels, and the natures of diverſe fruits, alſo the ſingularities and commendations of them.
29. Of the Myrtle, eleven kinds thereof.
30. Of the Lawrell or Bay tree, thirteene ſorts of it.

In ſumme, there be compriſed in this booke of notable matters, ſtories, and obſervations 520, collected out of

Latine Authors.

Feneſtella, Fabianus, Virgil, Cornelius, Valerianus, Celſus, Cato Cenſorius, Sarſennæ (both father and ſonne) Scropha, Mar. Varro, D. Syllanus, Fabius Pictor, Trogus, Hyginus, Flaccus Verrius, Græcinus, Atticus, Iulius Sabinus, Tergilla, Cotta Meſſalinus, Columella, L. Piſo, Pompeius Lenæus, M. Accius Plantius, Fabius Dorſenus, Scævola, Aelius, Atteius Capito, Sextus Niger, and Vibius Ruſus.

Forraine writers.

Heſiodus, Ariſtotle, Democritus, king Hiero, Archytas, king Philometor, king Attalus, Xenophon, Amphilochus the Athenian, Anaxipolis the Thaſian, Apollodorus of Lemnos, Ariſtophanes the Mileſian, Antigonus the Cymæan, Agathocles of Chios, Apollodorus of Pergamus, Ariſtander the Athenian, Bacchius the Mileſian, Bion of Soli, Chæreas of Athens, and Chæriſtus likewiſe the Athenian, Diodorus of Priene, Dion the Colophonian, Epigenes the Rhodian, Evagor & the Thaſian, Euphronius the Athenian, Androcion and Aeſchrion (who writ both of Husbandrie) Dionyſius that tranſlated the bookes of Mago, and Dionyſius the Epitomiſt, who brought them all into a Breviarie. Aſclepiades and Eraſiſtratus, both Phyſicians, Comiades, who wrate as touching the confectures of wine, Ariſtomachus, Hiceſius, who both treated of the ſame matter, Themiſon the Phyſician, Oneſicritus, and king Iuba.

¶ IN THE SIXTEENTH BOOKE ARE CONtained the natures of vvild Trees.

Chap.
1. Countries wherein no trees doe grow: miraculous woonders of trees in the North countries.
2. Of the great forreſt Hercynia.
3. Trees that beare Maſt.
4. Of the Civick guirland, and who in old time were adorned and honoured with chaplets of tree leaves.
5. Of Maſt thirteene kinds.
6. Of Beech Maſt, and other ſorts of Maſt: of
Chap.
Coale, and the feeding of Hogs.
7. Of Gals, and how many things beſides Maſt and Acornes Maſt trees doe beare.
8. Of Cachrys, and of the Skarlet graine: alſo of Agaricke and Corke.
9. Of what trees the barke is in uſage.
10. Of ſhindles to cover houſes, of the Pine-tree and the wild Pine, of the Firre & Pitch-tree, of the Larch tree, of the Torch tree Tœda, and the Eugh tree.
11. The

Chap.
11. The manner of making ſundrie ſorts of Pitch and Tar: how the virgin pitch called Cedrium is made: of the thicke ſtone pitch how it is made: and the ways to boile roſin.
12. Of the ſhip pitch called Zopiſſa: of Sapium: and thoſe trees that yeeld timber good for building.
13. Of the Aſh tree, foure kinds.
14. Of the Teil or Linden tree, two ſeverall ſorts thereof.
15. Ten divers ſorts of Maples.
16. Of the knot in Maple called Bruſcus and Molluſcum: of a kind of Fiſticke tree called Staphylodendron: of Box tree three ſorts.
17. Of the Elme, foure kinds.
18. The nature of trees according to their ſituation and places where they grow.
19. A generall diviſion of trees.
20. What trees never ſhed their leaves quite: of the Oleander tree called Rhododendron.
21. Againe what trees looſe not their leaves, but ſhew alwaies greene, which be they that ſhed their leaves in part. In what countries no trees at all doe looſe their leaves.
22. The nature of thoſe trees which let fall their leaves, and which have leaves of ſundrie colours.
23. Three ſorts of Aſps or Poplars: & of what trees the leaves doe alter their forme and faſhion.
24. What leaves uſe to turne everie yeere: the manner how to order the leaves of Date trees and to uſe them. Alſo ſtraunge and admirable things as touching leaves.
25. The order and courſe that Nature holdeth in plants: the bloſſoms of trees: their manner of conception, blouming, budding, and bearing fruit: and in what order they put out floures.
26. Of the Corneil tree: the right ſeaſon wherin everie tree beareth fruit: what trees bee fruitleſſe, and therfore are ſuppoſed unhappie: which they bee that ſoone looſe their fruit: and laſt of all what trees ſhew fruit before they put forth leaves.

Chap.
27. Of trees that beare fruit twice and thrice in one yeere: what trees ſodainly wax old: the age of trees.
28. Of the Mulberrie tree.
29. Of trees growing wild.
30. Of the Box tree, and the great Beane tree or Lotus.
31. Of the boughs, braunches, barke, rind, and root of trees.
32. Of prodigious trees that preſage ſomewhat to come: of trees that ſpring and grow of themſelves. Alſo a diſcourſe, that all trees grow not in everie place: and what trees will not live but in this or that one place.
33. Of the Cypreſſe tree. Alſo, that the ground will bring forth ſome new plants that never were ſet, ſowne, or growing there before.
34. Of Yvie.
35. Of the Ivie called Smilax.
36. Of Reeds, Canes, and ſhrubs growing in water.
37. Of the oſier or willow, eight ſorts thereof: alſo what twiggs beſides oſiers and willowes are good for windings and to bind withall: of buſhes and grieves.
38. The juice and liquor of trees: the nature of their wood and timber: alſo of hewing downe and falling trees.
39. Of the Larch tree, the Fir, and the Sapine: the time of cutting them downe, and ſuch like.
40. Sundrie ſorts of wood: the extraordinarie bigneſſe of trees: what wood is not ſubject to be worm-eaten nor to decay: other trees that be everlaſting.
41. Of wood-worms.
42. Of timber fit for carpentrie and building: what timber is good for this or that uſe; and namely, which is beſt and more firme and durable for roufs of houſes.
43. The manner of glewing bourds & planks: alſo of rent or cloven ſtuffe.
44. The age of trees: which bee they that laſt not long: of Miſſelto, and of the Prieſts Druydæ.

In ſumme, this booke comprehendeth of notable things, hiſtories, and obſervations, an hundred and five and thirtie.

Latine Authours cited.

M. Varro, Fœcialis, Nigidius, Cornelius Nepos, Hyginus, Maſſurius, Cato, Mutianus, Lucius Piſo, Trogus, Calphurnius, Baſſus, Cremutius, Sextius Niger, Cornelius Bocchus, Vitruvius, and Gracinus.

Forreine Writers.

Alexander Polyhistor, Hesiodus, Theophrastus, Democritus, Homer, Timæus the Mathematician.

¶ THE SEVENTEENTH BOOKE CONTAIneth the nature of trees planted, set, and well *kept in Hortyards.*

Chap.

1. Trees of wonderfull price.
2. Of the nature of heaven and the skie respective unto trees: and what part of the skie they ought to regard.
3. The societie and accord of the climate and the soile requisit for trees.
4. The qualities of the ground in divers regions.
5. Sundrie kinds of ground and earth.
6. Of a kind of earth or marle that they in Britaine and Fraunce set much store by.
7. What the Greekes have taught, and what rules they have given as touching this point.
8. Of more kinds of earth.
9. The use of ashes, and of dung: what plants will enrich the ground and make it more battell: contrariwise, which they bee that burne out the heart thereof.
10. The planting or setting of trees: how to make a sion or slip to take and grow againe that is plucked from the root of the stocke.
11. Of transplanting out of seminaries, yong trees that came of pepins and seeds.
12. The spaces betweene and distance to bee regarded in planting trees: the shadow and droppings, either from house eaves or other trees.
13. What trees grow apace, and which thrive but slowly: also of the Savine.
14. The setting and graffing imps and sions of trees in the stocke or cliffe.
15. Of the manner how to graffe a vine.
16. Of inoculation or graffing in the leafe or scutcheon with a plastre.

Chap.

17. An example or experiment of this kind of graffing.
18. The order of planting and husbanding olives: and which is the proper time for graffing.
19. What trees love the companie and societie of others: the skill of baring the roots about trees, cutting off their superfluous spurns, and raising hills about the roots.
20. Of willow banks and rows of osiers: of places where reeds and canes are nourished: of other plants used to be cut, for poles, pearches, stakes, and forkes.
21. The manner of planting vines: the skill of trimming them.
22. The furrow about vines: and the pruning of them.
23. The manner of planting trees to serve for vines to run upon.
24. How to keepe and preserve grapes: the diseases incident to trees.
25. Of sundrie prodigious and monstrous sights shewed in trees: also of an olive yard which in old time removed, and was transplanted from one side of a great high way to the other.
26. Remedies against the diseases and imperfections or faults in trees.
27. Of scarification and paring of trees: and the manner of dunging them.
28. Divers medicines against venemous beasts and pismires, and other creatures noisome and hurtfull to trees.

In summe, here bee contained notable matters, stories, and observations, to the number of five hundred eightie and one.

Latine Authors alledged.

Cornelius Nepos, Cato Censorius, M. Varro, Celsus, Virgill, Hyginus, Sarsennæ both father and sonne, Scrophas, Calphurnius, Bassus, Trogus, Æmilius Macer, Græcinus, Columella, Atticus, Iulius, Fabianus, Sura Manlius, Dorsenus Mundus, Caius Epidicus, and L. Piso.

Forreine Authours.

Isidorus, Theophrastus, Aristotle, Democritus, Theopompus, K. Hiero, K. Attalus, K. Philometor, Archytas,

Archytas, Xenophon, Amphilochus the Athenian, Anaxipolis the Thaſian, Apollodorus of Lemnos, Ariſtophanes the Mileſian, Antigonus the Cymean, Agathocles the Chian, Apollonius of Pergamus, Bacchius the Mileſian, Bion, Chærea the Athenian, alſo Chariſtus of Athens, Diodorus of Priene, Dion the Colophonion, Epigenes the Rhodian, Euagon the Thaſian, Euphron the Athenian, Androcion, Æſchrion, Lyſimachus, who all three wrote of Agriculture: Dionyſius who tranſlated the books of Mago, and Diophanes who out of Dionyſius collected a breviarie, and Ariſtander who made a treatiſe of Wonders and portenteous tokens.

¶ THE EIGHTEENTH BOOKE IS A TREATISE of Agriculture or Husbandrie.

Chap.

1. That our auncetors in old time were exceeding much given to husbandrie. Alſo, the ſingular care that men had to looke unto hortyards and gardens.
2. Of the firſt chaplets and guirlands uſed at Rome.
3. Of the acre of ground and halfe acre, called at Rome Iugeris & Actus. The ancient ordinances concerning cattell: in what time the market for victuals was exceeding cheap at Rome: and who were famous & renowmed for husbandrie and tilling the ground.
4. The auncient manner of tilling the earth.
5. Where a ferme houſe is to be ſeated & built conveniently: certain rules in old time concerning tillage.
6. A diſcourſe as touching the praiſe of huſbandmen: what rules are to be obſerved to come by a good peece of land.
7. Divers kinds of corne, and their nature.
8. That all ſorts of graine will not grow everie where. Of other kinds of corne in the Levant or Eaſt countries.
9. Of baking and paſtrie: of grinding and of meale.
10. Of the fine cocked floure: of the white floure of wheat, and of other ſorts of floure: the manner of moulding and making dough, and baking.
11. The manner of making and laying leaven: alſo of making paſt & bread: and when Bakers were firſt knowne at Rome. Of ſieves, ſerces, and bulters; and of ſodden wheat or frumentie.
12. Of pulſe.
13. Of Rapes and Navewes in the Amiternine tract.
14. Of Lupines.
15. Of Vetches and Ervile.
16. Of Fenigreeke: of Meſſelline or Dredge-corne: of Mung-corne or Bollimong for provander: of Claver or three-leafed graſſe called Medica; and of another Trefoile named Cytiſus.
17. The faults and diſeaſes in corne, graine, and pulſe, and their remedies: what corne or pulſe ought to be ſowne with reſpect to the ground.
18. Of prodigious tokens obſerved in corne. The skill of ploughing the ground: the divers ſorts of culters & ſhares in the plough.
19. The ſeaſons of the yeere fit to till & plough the ground. The manner of putting oxen in the yoke for the plough.
20. Of breaking clods or harrowing: of another kind of tilling: the earing or ſecond tilth or ſtirring the ground. And cutting the corne.
21. The manner of tilling and husbanding land.
22. Examples of divers grounds: of ſuch as are woonderous fertile: of a vine that beareth grapes twice in the yeare. The difference of waters.
23. The qualitie of the ground or ſoile: of compoſt or dunging lands.
24. The goodneſſe of choice ſeeds: the manner of good ſowing: how much ſeed of any corn an acre will take to bee well ſowne. The ſeaſons of ſeednes.
25. The obſervation of the ſtars for their apparition or occultation, their riſing & ſetting, as well for day as night.
26. A recapitulation and briefe ſummarie of all things belonging to husbandrie. What is to bee done in the field everie moneth of the yeere.
27. That husbandmen ſhould not ſo much regard the ſigne or the ſtarrs, as the fit ſeaſon of the time for ſeednes. The riſing or fall, the apparition or occultation of plannets obſerved in ſome hearbs. Of the riſing and ſetting of ſtars.
28. Of medows: how they are to bee repaired and

Chap.
and brought into hart: of ſith-ſtones, hooks, ſickles, and ſithes: the time of ſowing corne, and what fixed ſtarres are of power about that time.
29. Of the ſeaſons and times to be marked as well in ſummer as winter: what remedie for barraine and leane ground.
30. Of the harveſt: of wheat, of chaffe: how to keepe corne.
Chap.
31. Of vintage, and autumne, and the conſtitution thereof.
32. What regard is to bee had in the moone and her age, in husbandrie.
33. The conſideration of the winds for agricul-ture.
34. The bounds, limits, bawks, and waies, to be obſerved in corne fields.
35. Signes whereby a man may prognoſticat the diſpoſition of the weather.

In ſumme, there be contained in this booke of notable matters, ſtories, and obſervations, two thouſand and ſix hundred.

Latine Authors alledged in this booke.

Maſſurius Sabinus, Caſſius Hemina, Verrius Flaccus, L. Piſo, Cornelius Celſus, Tarannius Gracculа, D. Syllanus, M. Varro, Cato Cenſorius, Scrofa, Sarſenna both father and ſonne, Domitius Calvinus, Hyginus, Virgill, Trogus, Ovid, Græcinus, Columella, Tubero, L. Aruntius who wrote in Greeke of Aſtronomie, and Cæſar Dictatour who likewiſe wrote of the ſame argument, Sergius Paulus, Sabinus Fabianus, M. Cicero, Calphurnius Baſſus, Atteius Capito, Manlius Sura, and Actius who compiled a booke called Praxidica.

Forreine Authours.

Heſiodus, Theophraſtus, Ariſtotle, Democritus, K. Hiero, K. Philometor, K. Attalus, K. Archelaus, Archytas, Xenophon, Amphilochus of Athens, Anaxipolis of Thaſus, Ariſtophanes the Mileſian, Apollodorus the Lemnian, Antigonus the Cymæan, Agathocles of Chios, Apollonius of Pergamus, Ariſtander the Athenian, Bacchius the Mileſian, Bion of Soli, Chærea of Athens, Chæriſtus likewiſe the Athenian, Diodorus of Priene, Dion of Colophon, Epigenes of Rhodes, Evagoras the Thaſian, Euphronius the Athenian, Andracion, Æſchrio, and Lyſimachus, who wrote all three of Husbandrie, Dionyſius that tranſlated the works of Mago, and Diophanes who drew the ſame into an Epitome, Thales, Eudoxus, Philippus, Callippus, Doſitheus, Parmeniſcus, Meliton, Criton, Oenopides, Zeno, Euclemon, Harpalus, Hecatæus, Anaximander, Soſigenes, Hipparchus, Aratus, Zoroaſtres, and Archibius.

¶ THE NINETEENTH BOOKE CONTAINETH a diſcourſe of the nature of Flax, and other wonderfull matters.

Chap.
1. The ſowing of Line ſeed: divers kinds of Flax: how it is dreſſed: of naperie and napkins: of linnen that will not burn nor conſume with fire: & when curtans were deviſed at Rome about the theatres.
2. The nature of a kind of broom called Spart, when it came to be uſed firſt, how it is to be ordered & dreſſed, what plants both ſpring and alſo live without roots.
3. Of Myſy, and of Muſhroms, of Tadſtoles or Muſhromes that bee broad and without a taile called Pezici, of Laſerpitium, and Magydaris, of Maddir, and the Fullers root Radicula, *i.* Sopeweed.
4. The manner of dreſſing and trimming gardens: alſo the ordering and due placing of other plants good for to be eaten; over and
Chap.
beſides corn, & the fruit of trees and ſhrubs.
5. The nature, the ſundrie ſorts, and the ſtories of many plants that grow in gardens.
6. Of the roots, leaves, floures, and colours of garden hearbs.
7. How many dayes it will be after the ſeeds of hearbs bee ſowne, or their ſlips ſet, ere they come up: the nature of ſeeds: how hearbs are to be ſown or ſet, and in what courſe and ranke: which hearbs are but one of a kind, and which they be that have many kinds.
8. The nature of ſuch garden hearbs as are good for the pot, or to make ſallads, and to ſeaſon meat withall; their kinds to the number of 46, with their ſtories & deſcriptions.
9. Of Fennell, and Hempe.
10. The diſeaſes and maladies that annoy gardens:

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dens, the remedies againſt the ſame: as alſo how to kill ants, caterpillers, and gnats.
21. What ſeeds be more or leſſe able to endure any hardneſſe or injurie, and which they be that ſalt waters are good for.
22. The manner of watering gardens: what hearbs they be, which beeing tranſplanted and removed, proove the better: and finally, the juice, the ſweet ſavours, and relliſhes of garden-hearbs.

In ſumme, here are compriſed memorable things, ſtories, and obſervations, a thouſand one hundred fortie and three.

Latine Authours cited.

M. Actius Plautus, M. Varro, D. Syllanus, Cato Cenſorius, Hyginus, Virgill, Mutianus, Celſus, Columella, Calphurnius Baſſus, Manlius Sura, Sabinus Tyro, Licinius Macer, Q. Hirtius, Vibius Rufus, Ceſennius who wrote Cepurica, [i. a treatiſe of Gardening] Caſtritius likewiſe, and Firmius, (who both twaine made a worke of the ſame matter) and laſt of all Petreius.

Forraine Writers.

Herodotus, Theophraſtus, Democritus, Ariſtomachus, Menander, (who wrote a booke entituled Brochreſta, i. of things profitable for our life and diet) and Anaxilaus.

¶ THE TWENTITH BOOKE COMPRISETH medecines out of thoſe Simples vvhich are ſet and *ſowed in Gardens.*

Chap.
1. Of the wild Cucumber, and the juice therof Elaterium.
2. Of the Cucumber as well that which wandereth & groweth abroad called Anguinum, as that of the garden: alſo of the Pompion.
3. Of the wild Gourds, and the Rape or Naves.
4. Divers ſort of Navewes: of the wild Radiſh, of the garden Radiſh, and the Parſnip or Carot.
5. Of Staphylinum or the tame Parſnip. The hearb Gingidium or Chervill: of Seſelis or Siler-mountaine: of Elecampane, and of Onyons.
6. Of Porret or Leekes uſed to bee cut, and of cabbage Leeks or headed, alſo of Garlicke.
7. Of wild Lettuce or Hawkeweed, called alſo Lactuca Caprina, of another kind named Eſopus, of Woad, & tame garden Lettuce.
8. Divers kinds of Beets, of Endive, and Cichorie, of garden Endive.
9. Of Cawle or Coleworts, of the wild Colewoorts Lapſana, of Soldanella, of Squilla or the Sea-onion, of Scallions or Chibbols, and of Dogleeks.
10. Of Sparage both tame and wild, of Libycum and Clarie.
11. Of Parſley, of Baulme, Smallage, & mountaine Parſley.
12. Of Aliſanders, and garden Baſill.
13. Of wild Baſill, of Rocket, of Creſſes, and Rue.
14. Of wild Mints, of garden Mints, of Peniroyall, of Nep, and Cumin.
15. Of Æthiopian Cumin, which ſtaieth urine, of Capers, of Lovach, of Panace, of wild Origan or Majoram ſavage.
16. More of wild Origan and Heracleotica, called alſo Gallinacea Cunila, *i.* Small majoram, Savorie or Orgament, Roſemarie, ſweet Majoram of the garden and of the mountaine.
17. Of Cockweed, Pepperwort, or Dittander, of garden Origan, of a kind of Orgament called Onitis or Praſon, of Tragoriganum or wild Peniroyall, the water Lillie or Nenuphar, of Lepidium, of Gith or Nigella Romana, and of Aniſe.
18. Of Dill, of Sacopænium, of Sagapen, of Poppies both white and blacke: the maner how to draw the juice of hearbs: and of Opium.
19. Of the wild Poppie, of horned Poppie, of Glaucium or Paralium, of Heraclium or Aphrum, of the confection Diacodium made of Poppie heads, of Tithymall.
20. Of Purcellane or Peplium, of Coriander and Orach.
21. Of Mallowes, and Malope, of Althæa, or Marſh-

Chap.
Marshmallow, of Dockes, soure Docke or Sorell, the water Docke, the hearb Patience or Bulapathum.
22. Three kinds of Senvie, of Horehound, of running Thyme, of water Mints or Savorie, of Linesseed and Bletes.
Chap.
23. Of Meu, of garden Fennell, of wild Fennell or Myrsineum, of Hempe, of Fennellgeant, of Thystles, and Artichokes.
24. The confection called Triacle, the composition of *Antiochus*.

In summe, there be compriſed in this booke of medicines, stories, and obſervations, one hundred ſixtie and ſeven.

Out of Latine Authors.

Cato Cenſorius, Mar. Varro, Pompeius Lenæus, Gallio, Hyginus, Sextius Niger who wrote in Greeke, and Iulius Baſſus likewiſe, who wrote in the ſame langnage, Celſus, and Antonius Cæſar.

Forraine writers.

Democritus, Theophraſtus, Orpheus, Menander who made the booke Biochreſta, Pythagoras, and Nicander.

Out of Phyſicians.

*Nicander, Hippocrates, Chryſippus, Diocles, Ophion, Heraclides, Hiceſius, Dionyſius, Apollodorus of Tarentum, Apollodorus the Citien, Praxagoras, Philiſtonicus, Medius, Dienches, Cleophantus, Philiſtio, Aſclepiades, Crateuas, Petronius, Diodorus, Iolla, Eraſiſtratus, Dioscoras, Andreas, Mneſicles, Epicharmus, Damion, Dalion, Soſimenes, Theopolemus, Metrodorus, Solon, Lycus, *Olympiades of Thebes, Phyllinus, Petreius, Miction, Glaucia and Xenocrates.*

* A woman who was a Midwife.

IN THE XXI. BOOKE ARE CONTAINED the natures of Flowers and Hearbes *to make Guirlands of.*

Chap.
1. The nature of flowers and hearbs that serve for Chaplets, the woonderfull varietie of flowers.
2. Of Chaplets and nosegaies of flowers. Who first deviſed to set flowers in order one with another. When Coronets or Guirlands of flowers were invented and took their name, and upon what occaſion.
3. Who first gave a preſent of a Chaplet garnished with silver and gold foile. In what honour and eſtimation ſuch Guirlands were in old time. The honor done of old to *Scipio*. Of Coronets or Chaplets platted, wrythed, and braided. Alſo of a notable act of queen *Cleopatra* in making of Chaplets.
4. Of Roſes set in Guirlands. Diverſe ſorts of Roſes, and where they be set and doe grow.
5. Three kinds of Lillies. The ſtraunge manner of ſetting them.
6. Of Violets, Marigolds, of Baccharis, Combretum, Aſarabacca or Folefoot, and Saffron.
7. Of the flowers uſed in ancient time in Guirlands & Chaplets. The great diverſitie that is in aromaticall and odoriferous ſimples: of Lavander, Spike, and Polium.
8. The colours of cloth reſembling flowers. Of flower Gentill or Paſſee-velours: of Chryſocome or Chryſites.
9. The honor done by Guirlands, and their excellencie: of Cyclaminum, of Melilot, of Claver or Trefoile, whereof there be three ſorts.
10. Of Origan, Thyme, Honey of Athens, of Doniza or Fleabane, of Iupiters flower, of Helenium or Elecampane, of Sothernwood, and Camomile.
11. Of Majoran, of Nyctigretum and Melilote, the white Violet or ſtocke Gilloſre, of Codiaminum, alſo of wild Bulbs or Rampions, of Heliochryſum, & Lychnis or Roſe Campion, and many other hearbes growing on this ſide the ſea.
12. The manner how to nouriſh and keepe Bees: of their maladies, and remedies thereto.

Chap.
13. Of Honey that is venomous, remedies againſt ſuch venomous Honey, as alſo againſt another kind thereof, which maketh folke to be mad that taſt thereof.
14. Of a certain Hony that flies will not touch nor come neare to. Of Bee-hives. The way how for to keepe the Bees when they are at a fault for meat: and how their Wax is made.
15. Of hearbes good to eat which come up of their owne accord, and namely, thoſe that are prickie.
16. Of Thyſtles, of Parietarie of the wall, of Brambles and Orchanet.
17. The difference of many ſorts of hearbes in their leafe. Which they be that doe floure all the yeare long, of the Daffodill, of Piſtana, and of the Gladen or Sword-graſſe.
18. Of diverſe ſorts of Reeds, and of Cyperus, of the medicinable vertues which they have, of Cypirus, and Squinanth.
19. The medicinable vertues of Roſes, of the Lillie, of Narciſſus, of the Violet, and of Baccharis or Ladies gloves, of Combretum and Aſarabacca.
20. Of Nard Celticke and Saffron, the vertues thereof and uſe in Phyſicke, of the ſweet ointment Crocomagma made of Saffron,
Chap.
of Spike or Lavender, of Polium, and Flour de lis, of Heliochryſum, Chryſocome, and Melilot.
21. Of ſweet Trifolie, of Thyme, the wild yellow Lillie Hemerocallis or the Day-flower, of Elecampane and Sothernwood.
22. The medicinable vertues of Camomile and Marjoram.
23. The vertues of Corne Roſe or Paſſe-flowers Anemone.
24. The properties medicinable of Filipendula.
25. The vertues of Heliochryſum.
26. The medicines of Crowtoes.
27. The vertues of the Perywinckle, Butchers broome, of Sampier, and wild Baſill.
28. The medicinable vertues of Colocaſia or the Ægyptian Beane.
29. The properties of Anthalium.
30. The vertues of Fewerfue.
31. The vertues of Nightſhade or petie Morrell, and Alkakengi.
32. Of Corchorus, *i.* Chickeweed, and of Cnicus, *i.* Carthanus or baſtard Saffron.
33. Of the hearbe Perſoluta.
34. Of the weights and meaſures uſed in old time.

In ſumme, there be in this booke to be found medicines, ſtories, and worthie obſervations, ſeven hundred and thirtie.

Latine Authours alleadged.

Cato Cenſorius, M. Varro, Maſſurius, Antias, C. Helius, Veſtinus, Vibius Ruffinus, Hyginus, Pomponius Mela, Pompeius Lenæus, Cornelius Celſus, Calphurnius Baſſus, P. Largius, Licinius Macer, Sextius, and Iulius Baſſus, who both wrate in Greeke, and Antonius Caſtor.

Forreine Writers.

Theophraſtus, Democritus, Orpheus, Pythagoras, Mago, Menander who wrote the Treatiſe Biochreſta, Nicander, Homer, Heſiodus, Muſæus, Sophocles, and Anaxilaus.

Phyſicians.

Mneſtheus and Callimachus who wrote both of Guirlands made of flowers, Phanias the naturall Philoſopher or Phyſician, Simus, Timariſtus, Hippocrates, Chryſippus, Diocles, Ophion, Heraclides, Hiceſius, Dionyſius, Apollodorus of Citia, Apollodorus of Tarentum, Praxagoras, Pliſtonicus the Phyſician, Dieuches, Cleophantus, Philiſtio, Aſclepiades, Cratevas, Petronius, Diodotus, Iolla, Eraſiſtratus, Diagoras, Andreas, Mneſicles, Epicharmus, Damion, Dalion, Zoſimenes, Theopolemus, Metrodorus, Solon, Lycus, Olympias the midwife of Thebes, Phillinus, Petreius, Miction, Glaucias, and Xenocrates.

IN THE XXII. BOOKE ARE CONTAINED discourses as touching the estimation of Hearbes.

Chap.

1. Of certain nations that use hearbes to beautifie their bodies.
2. Of clothes died with the juice of hearbes.
3. Of the Chaplet made of the common meddow grasse.
4. How rare these Guirlands of grasse were.
5. Which were the onely men that had the honour to be crowned with the said Chaplets.
6. The onely Centurion allowed to weare the said Guirland.
7. Medicinable vertues observed in the rest of hearbs and flowers that serve for Guirlands, and first of Eringe or sea Holly.
8. Of the Thystle or hearbe which they call Centum-capita.
9. Of Acanus and Liquirice.
10. Of Brambles or Thystles called Tribuli, their kinds and vertues.
11. The vertues and properties of the hearbe Stœbe.
12. Of Hippophyes, and of Hippope, *i.* the Tazill, and their properties.
13. Of the Nettle and the medicinable vertues of it.
14. Of the white dead Nettle or Archangell Lamium, and the vertues of it.
15. Of the hearbe Scorpius or Caterpillers the kinds and vertues thereof.
16. Of Leucacantha or our ladies Thystle, and the vertues of it.
17. Of Parietarie of the wall called Helxine or Perdicum, of Feverfew or Motherwort, Parthenium, of Sideritis, *i.* wall Sauge or stone Sauge, and the vertues thereof good for Physicke.
18. Of Chamæleon, the sundrie sorts and properties that it hath.
19. Of Coronopus, *i.* Crow-foot Plantaine or Buckhorne Plantain, and the vertues therof.
20. Of Orchanet, as well the right as the bastard, and the vertues of them both.
21. Another kind of Orchanet called Onochelis, of Camomile, of the hearbe Lotus or common Melilot, of Lotometra, which is a kind of garden Lotus or sallade Claver, of Heliotropium, *i.* Turnsoll or Solsium, and Tricoccum, a kind thereof, of Maidenhaire called Adiantum, and Callitrichum.
22. Of bittter Lectuce or wild Cichorie, of Thesium, of Daffodill, of Halimus, of Brankursine, of Bupreſtis, of Elaphoboscum or Gratia Dei, of Scandix, *i.* wild Chervill or shepheards needle, of the wild wort Iasione, of bastard Persly, Caucalis, of Laver, of Sillybum, of Scolimus, *i.* the Artichoke or Limonia, of Sowthystle, of Chondrilla, and of Mushromes.
23. Of Toadstools, of Silphium, & of Laser juice
24. The nature of Hony, of Mead or Hydromel: how it commeth that the fashions are changed in certaine kinds of meat, of honied wine, of wax. A discourse against the composition of many simples.
25. The medicinable vertues of corne.

In summe, here you shall find of medicines, stories, and observations, 906, gathered out of

The same Authours which were named in the booke before, and besides out of *Chrysermus*, *Eratosthenes*, and *Alcæus*.

IN THE XXIII. BOOKE IS CONTAINED a Treatise of Hortyard trees.

Chap.

1. The medicinable qualities of grapes fresh and new gathered, of Vine cuttings and of grape kernils, of the grape Theriace, or Treacle grape, of dried Grapes or Raisins, of Astaphus, of Stavesacre, called also Pituitaria, of the wild Vine, of the white Vine which is called Bryonie, of the blacke Vine, of new wines, of diverse and sundrie sorts of wines and also of vinegre.

2. Of

Chap.
2. Of the medicinable vertues of vinegre Squilliticke, of Oxymell or honied vinegre, of cuit, of the dregs or lees of wine, vinegre, and cuit.
3. The vertues of Olives, of the leaves of the Olive, of the floure and aſhes of the Olive, of the white and blacke fruit of the Olive: alſo of the dregs or grounds of oile.
4. Medicinable properties obſerved in the leaves of the wild Olive, of the oile made of the wild vine flowers, of the oile Cicinum, the oyles of Almonds, Baies, and Myrtles, the oile of Chamamyrſine or grand Myrtle, alſo of Cypreſſe, of Cytrons, & walnuts, &c.
5. The Ægyptian Palmetree that beareth Ben, alſo of the Date tree called Elate, and the vertues of them.
6. The medicinable vertues of ſundrie plants; namely, in their flower, leafe, fruit, boughs, barke, wood, juice, root, and aſhes.
7. Of Peares, and the obſervations to them belonging, of Figges both wild and ſavage: of Erineum, and other ſorts of plants, with their vertues.
8. Of Pine-nuts, and Almonds, of the Filbard and Walnut, of Fiſtickes and Cheſtnuts, of Charobs, Corneils, Strawberrie trees, and Baies.
9. Of the Myrtle gentle, of Myrtidanum, and the wild Myrtle.

In ſumme, there bee noted in this booke medicines, ſtories, and obſervations, a thouſand foure hundred and nineteene.

Latine Authors cited.

C. Volgius, Pompeius Lenæus, Sextius Niger, and Iulius Baſſus, who wrot in Greeke both, Antonius Caſtor, M. Varro, Cornelius Celſus, and Fabianus.

Forraine Writers.

Theophraſtus, Democritus, Orpheus, Pythagoras, Mago, Menander the author of the booke Biochreſta, Nicander, Homer, Heſiodus, Muſæus, and Anaxilaus.

Phyſicians.

Mneſtheus, Callimachus, Phanias the naturall Philoſopher, Simus, Tamariſtus, Hippocrates, Chryſippus, Diocles, Ophion, Heraclides, Hiceſius, Dionyſius, Apollodorus of Cittia, Apollodorus the Tarentine, Praxagoras, Pliſtonicus, Medius, Dieuches, Cleophantus, Philiſtio, Aſclepiades, Cratevas, Petronius, Diodotus, Iolla, Eraſiſtratus, Diagoras, Andreas, Mneſicles, Epicharmus, Damion, Dalion, Soſimenes, Theopolemus, Metrodorus, Solon, Lycus, Olympias the midwife of Thebes, Phyllinus, Petreius, Miction, Glaucia, and Xenocrates.

¶ THE XXIIII. BOOKE TREATETH OF Trees growing vvild.

Chap.
1. Medicinable vertues obſerved in wild trees.
2. The Ægyptian Beane tree, Lotus.
3. Maſt and Acornes.
4. The grain or berie of the tree Ilex, of Gals, of Miſſelto, of little bals and maſt of trees, the root of Cirrus, and of Corke.
5. Of the Beech, the Cypreſſe tree, the tall Cedar, the fruit or berrie therof, and of Galbanum.
6. Of Ammoniacum, Storax, Spondylium, Spagnus, the Terebinth tree, of Chamæpitys or Iva Muſcata, of Eſula or Pityuſa, of Roſins, of the Pitch-tree and the Lentiske.
7. Of ſtiffe Pitch, of Tarre, of Pitch twice boyled, of Piſſaſphalt, of Zopiſſa, of the Torch tree, and Lentiske.
8. The vertues of the Plane tree, the Aſh, the Maple, the Aſpe, the Elme, the Linden tree or Teil, the Elder, and Iuniper.
9. Of the Willow, the Sallow Amerina, and ſuch like, good for windings and bands, alſo of Heath or Ling.
10. Of Virga Sanguinea, of the Oiſier, of the Privet, the Aller, of Yvie, of Ciſtus or Ciſſus, of Erythranum, of ground Yvie or Alehouſe, of Withwind, of Perwinke or Leſſeron.

Chap.
11. Of Reeds, of Paper cane, of Ebene, of Oleander, of Rhus or Sumach, of Madder, of Alysium, of Sopeweed, of Apaynum, of Rosemarie and the seed thereof, of Selago, of Samulus, of Gums, and the medinable vertues of them all.
12. Of the Arabian thorne or thistle, of Bedegnar, of Acanthium and Acacia.
13. Of the common and wild thystle, of Erysisceptrum, of the thorne or thystle Appendix, of Pyxacanthum or the Barbarie tree: of Paliurus, of the Holly, of the Eugh tree and other bushes, with their vertues in Physicke.
14. Of the sweet Brier or Eglantine, of the Respise bush, of the white bramble Rhamnus, of Lycium, of Sarcocolla, of the composition named Oporice, and all their medicines.
15. Of Germander, of Perwinke or Lowrie, of Chamælæa or Olivell, of Chamæsyce, of ground yvie, of Lavander Cotton, of Ampelopraſos or Vine Porret, of Stachys or wild Sauge, of Clinopodium or Horsetime, of Cudweed, of Perwinke of Ægypt; and their properties.
16. Of Wake Robin, of Dragonwort or Serpentine of the garden, the greater Dragonwort, of Arisaron, of Yarrow, and Millefoile: of bastard Navew, of Myrrhis, and Onobrychis, with their vertues.
17. Of Coriacesia, Callicia, and Menais, with three and twentie other hearbes, and their properties, which are held by some to serve in Magicke. Of Considia and Aproxis: with others that reduce and revive love againe.
18. Of Eriphia, Lanaria, and water Yarrow, with their vertues.
19. Of the hearbs that groweth upon the head of statues and images, of the hearbes that come out of rivers, of the hearb called Lingua simply, *i.* the toung: of hearbes growing within sieves, and upon dunghils, of Rhodora, of the hearb Impia, *i.* the child before the parents, of the hearb Pecten veneris, of Nodia, of Cleivers or Goose Erith, of Burs, of Tordile, of Dent de chien or Quiches, of Dactylus and Fenigreek, with their vertues.

In summe, herein are compriſed medicines, stories, and obſervations, a thousand foure hundred and eighteene: collected out of

Latine Authors.

C. Volgius, Pompeius Lenæus, Sextius Niger, and Iulius Bassus, who wrate both in Greek; Antonius Castor, M. Varro, Cornelius Celsus, and Fabianus.

Forreine Writers.

Theophrastus, Apollodorus, Democritus, Orpheus, Pythagoras, Mago, Menander the author of the booke Biochresta, Nicander,, Homer, Hesiodus, Musæus, Sophocles, and Anaxilaus.

Physicians.

Mnestheus, Callimachus, Phanias the naturall Philosopher, Simo, Timaristus, Hippocrates, Chrysippus, Diocles, Ophion, Heraclides, Hicesius, Dionysius, Apollodorus of Cittia, Apollodorus the Tarentine, Praxagoras, Plistonicus, Medius, Dieuches, Cleophantus, Philistio, Asclepiades, Cratevas, Petronius Diodotus, Iolla, Erasistratus, Diagoras, Andreas, Mnesicles, Epicharmus, Damion, Sosimenes, Theopolemus, Solon, Lycus, Metrodorus, Olympias the midwife of Thebes, Phyllinus, Petreius, Miction, Glaucia, and Xenocrates.

¶ IN THE XXV. BOOKE ARE CONTAINED the natures of hearbes and vveeds that come up of themselves. The reputation that hearbes have been of. When *they began first to be used.*

Chap.
1. The properties and natures of wild hearbes growing of their owne accord.
2. What Authours have written in Latine of the nature and use of hearbes. When the knowledge of simples began first to be practised at Rome. What Greeke Authours first

Chap.
first wrote of hearbs, the invention and finding out of sundrie hearbes, the Physicke of old time. What is the cause that Simples are not so much in request and use for Physicke as in old time. The medicinable vertues of the Eglantine and Serpentarie or Dragon.
3. Of a certaine venomous fountaine in Almaine, the vertues and properties of the hearbe Britannica, what diseases cause the greatest paines.
4. Of Moly, of Dodecatheos, of Pæonium, named otherwise Pentorobus, and Glycysside, of Panace or Asclepios, of Heraclium, of Panace Chironeum, of Panace Centaureum or Pharnaceum, of Heraclium Siderium, of Henbane.
5. Of the hearbe Mercurie female, of Parthenium, of Hermu-Pœa, or rather Mercurie: of Yarow, of Panace Heracleum, of Sideritis, of Millefoile, of Scopa regia, of Hemionium, Teucrium, Splenium, Melampodium or blacke Ellebore, and how many kinds there be of them. The medicinable vertues of blacke and white Ellebore: when Ellebore is to be given, how it is to be taken, to whom it is not to bee given, also that it killeth Mice and Rats.
6. Of Mithridatium, of Scordotis or Scordium, of Polemonia, otherwise called Philetæria or Chiliodynama, of Eupatorie or Agrimonie, of great Centaurie, otherwise called Chironium, of the lesse Centaurie or Libadium, called Fel Terræ, *i.* the gall of the Earth. Of Triorches, and their vertues.
7. Of Clymenus, Gentian, Lysimachia, and Parthenius or Motherwort, Mugwort, Ambrose, Nenuphar, Heraclium, and Euphorbia, with all their vertues medicinable.
8. Of Plantaine, Bugloss, Hounds tongue, Oxe eye or May weed, of Scythica, Hippice and Ischæmon, of Betonie, Cantabrica, Settarwort, of Dittander or Hiberis, of Celendine the greater, Celendine the lesse or Pilewort, of Canaria, of Elaphoboscos, of Dictamnum, of Aristolochia or Hartwort, how fishes will come to it for love of bait, and so are soone caught. The counterpoysons against stinging of serpents, by these hearbes abovenamed.
9. Of Argemonia, of Agaricke, Echium, Henbane, Vervaine, Blattaria, Lemonia, Cinquefoile, Carot, Persalata, the Clot Burre, Swines bread or Cyclaminus, Harstrang: all verie good for the sting of serpents.
10. Of Danewort or Walwort, of Mullin, of Thelyphonon. Remedies against the sting of Scorpions, the biting of Toades and mad Dogs, and generally against all poysons.
11. Receits and remedies against headach and diseases of the head.
12. Of Centaurie, Celendine, Panace, and Henbane, and Euphorbium, all soveraigne medicines for the eyes.
13. Of Pimpernell or Corchorus, of Mandragoras or Circeium, of Henbane, of Crethmoagrion, of Molybdæna, of Fumiterre, of Galangale, of Floure de lis, of Cotyledon, or Vmbilicus Veneris, of Housleeke or Sengreene, of Pourcellane, of Groundswell, of Ephemerum, of great Tazill, of Crow-foot: which affourd medicines against the infirmities and diseases of the eyes, eares, nosthrils, teeth, and mouth.

In summe, this booke doth yeeld of medicines, stories, and obsservations, a thousand two hundred ninetie and two.

Latine Authors cited.

M. Varro, C. Volgius, Pompeius Lenæus, Sextius Niger, and Iulius Bassus, who both wrot in Greeke, Antonius Castor, and Cornelius Celsus.

Forraine Writers.

Theophrastus, Apollodorus, Democritus, king Iuba, Orpheus, Pythagoras, Mago, Menander who wrote Biochresta, Nicander, Homer, Hesiodus, Musæus, Sophocles, Xanthus, and Anaxilaus.

Physicians.

Mnestheus, Callimachus, Phanias the naturall Philosopher, Timaristus, Simus, Hippocrates, Chrysippus, Diocles, Ophion, Heraclides, Hicesius, Dionysius, Apollodorus the Tarentine, Praxagoras,

Philistonicus, Medius, Dieuches, Cleophantus, Philistio, Asclepiades, Cratevas, Iolla, Erasistratus, Diagoras, Andreas, Mnesicles, Epicharmus, Damion, Theopolemus, Metrodorus, Solon, Lycus, Olympias the midwife of Thebes, Phyllinus, Petreius, Miction, Glaucias and Xenocrates.

¶ IN THE XXVI. BOOKE ARE CONTAINED the medicines for the parts *of mans bodie.*

Chap.

1. Of new maladies, and namely of Lichenes, what they be, and when they began to raign in Italie first. Of the Carbuncle, of the white Morphew or Leprosie called Elephantiasis, and of the Collicke.
2. The praise of *Hippocrates.*
3. Of the new practise in Physicke, of the Physician *Asclepiades*, and by what meanes hee abolished the old manner of practise and set up a new.
4. The superstitious follie of Magicke is derided. Also a discourse touching the foule tettar called Lichenes, the remedie therof: and also of the infirmities of the throat and chawes.
5. Receits and remedies against the kings evill: also for the diseases of the fingers and the breast, and against the Cough.
6. Of Mullin, of Cacalia, Tussilage or Folefoot, of Bechium, and Sauge, all hearbes for to cure the cough.
7. For the paines of the sides and chist, for the difficultie of breath, and those that cannot take wind but sitting or standing upright, for the paine of the liver and the heartach, medicines appropriat to the lungs, difficultie of urine, and the cough, for the breast, for inward ulcers, for the kidneies and imbecilitie of the liver, to stay vomit and yexing, also for the pleurisie and disease of the sides and flankes.
8. Of all diseases of the bellie and the parts either within it or neare unto it. How to stay the flux thereof, or to make it loose and soluble.
9. Of Penitroyall and Argemone.
10. Of water Lillie or Nenuphar, of abstinence from *Venus*, of provocation to fleshly lust, of Ragwort or Satyrium, called Erythraicum, of Crategis and Syderitis.
11. Generall remedies for infirmities of the feet, anckles, joints, and sinewes. Remedies against diseases that hold and possesse the whole bodie. Of Mirthryda. Medicines and meanes to procure sleepe: against the palsie, agues with cold fits, feavers or agues incident unto labouring Horses, Asses, and Mules: against franticke persons. Of the hearbe Chamæacta, of Housleek or Stonecrop, and Pricke-madame, of S. *Antonies* fire.
12. Remedies against dislocations in the joints, against the yellow jaundise, fellons, fistulaes, swellings of ventositie, burnes, scalds, and other diseases, for sinewes, and to staunch bloud.
13. Of the hearb called Horse-taile, Nenuphar, Harstrang, Syderitis: of many other remedies good to restraine the flux of bloud: of Stephanomelis and Erisithale, remedies against the wormes.
14. For ulcers, old sores, and greene wounds: to take away werts, and of the hearb Polycnemon.
15. Manie good experiments either for to provoke or to stay the flux of womens months: soveraigne remedies for the diseases of the matrice: also to cast foorth the fruit within the wombe, or to containe it the full time, for to take away the blemishes and spots in the skin, and namely of the face, to colour the haire, to cause the haire to fall, also against the scab or maunge of fourefooted beasts.

In summe, this booke leadeth you to medicines, stories and observations, a thousand two hundred ninetie and two: collected out of

Latine Authors.

M. Varro, C. Volgius, Pompeius Lenæus, Sextius Niger, and Iulius Bassus who writ both in Greeke, Antonius Castor, and Cornelius Celsus.

Forreine

Forraine Writers.

Theophrastus, Apollodorus, Democritus, Iuba, Orpheus, Pythagoras, Mago, Menander the author of Biochresta, Nicander, Homer, Hesiodus, Musæus, Sophocles, Xanthus and Anaxilaus.

Physicians.

Mnestheus, Callimachus the professour of Physicke, Timaristus, Simus, Hippocrates, Chrysippus, Diocles, Ophion, Heraclides, Hicesius, Dionysius, Apollodorus the Tarentine, Praxagoras, Plistonicus, Medius, Dieuches, Cleophantus, Philistio, Asclepiades, Cratenas, Iolla, Erasistratus, Diagoras, Andreas, Mnesicles, Epicharmus, Damion, Theopolemus, Metrodorus, Solon, Lycus, Olympias the midwife of Thebes, Phyllinus, Petreius, Miction, Glaucias and Xenocrates.

¶ IN THE XXVII. BOOKE COMPREHENDETH all other sorts of hearbes.

Chap.

1. The rest of Hearbes.
2. Of Aconitum, and how this hearbe killeth Leopards or Panthers.
3. That God is the creator of all things.
4. Of the hearbe Æthiopis, Ageratum, Aloe, Alcea, Alypum, Alsine, Androsacum, Androsæmon, Ambrosia, Restharrow, Anagyron, and Anonymon.
5. Of the great Burre, of Clivers or Goose grasse, Asplenum, Asclepias or Swallowwort, Aster or Bubonium, Ascyrum or Ascyroeides, Aphace, Alcibium, and Cockes combe.
6. Of Alus.
7. Of sea Weeds or Reits, of Elder, wild Vine, and Wormewood.
8. Of Ballote or stinking Horehound, of Botrys or Oke of Ierusalem, of Brabyla, of Bryon or Corallina, of Bupleuron, and Catanance, of Calla, Circeia, Cirsium and Cratægonum, Thelygonum, Crocodilium, Dogs stone, Chrysolachanum, Cucubalum, and Conferva or the river Spunge.
9. Of the graine called Coccos Gnidia, of Tazill, of Oke fearne, of Dryophonum, of Elatine, of Empetrum or Perce-pierre, of Epipactus or Elleborius, of Epimedum, Enneaphyllon, *i.* the nine leafed hearbe, of Osmund or Fearne, of Fenmur Bubulum, *i.* Ox thigh, of Galeopsis or Galeobdolon, of Glaux or Eugalactum.
10. Of Glaucium, of Pæonie, Cudweed or Chamæzelum, of Galedragum, Holcos, Hyositis, Holosteum, and Hypophæstum.
11. Of Hypoglossa, and Hypecoon, Idæa, Isopyron, Spurge, Pat-delion, Lycopsis, Greimile, &c.
12. Of Medium, Mouse-ear, Myagros, an hearb called Natrix, Othone, Onosma, Onopordos, Toads flax, Woodsoure or Alleluiah, Crowfoot, Knotgrasse, Camomile, Phyteuma, Phyllon, Phellandrion, Phalaris, Polyrhizon, Proserpinaca or Knotgrasse, Rhacoma, Reseda, and Stœchas.
13. Of Nightshade and Dwale, of Smyrnium, Orpinum, Trichomanes, Thalictrum, Thlaspi, Tragonias, Tragonis and Tragopogos, the serpent Spondylis. To conclude, that some diseases and venomous things be not in all countries.

In summe, herein are comprehended medicines, stories, and notable observations, 702.

Latine Authors cited.

Pompeius Lenæus, Sextius Niger, and Iulius Bassus, who wrate both in Greek; Antonius Castor and Cornelius Celsus.

Greeke Writers.

Theophrastus, Apollodorus, Cittiensis, Democritus, Aristogiton, Orpheus, Pythagoras, Mago, Menander that wrote the Treatise Biochresta, and Nicander.

Physicians.

Mnestheus and his fellowes, as they went in the former booke.

¶ IN

¶ IN THE XXVIII. BOOKE ARE COMPREhended the medicinable vertues from *living creatures.*

Chap.

1. The medicines & vertues obſerved in living creatures.
2. Whether charmes and bare words or characters availe ought in Phyſicke. That prodigious tokens and preſages may take effect in ſome, and may bee averted and made fruſtrat by others.
3. Remedies even in the bodies of men againſt enchauntments and Magicke.
4. Of certain ſorceries, alſo the vertue of a mans ſpittle.
5. The regard of diet for a mans health.
6. Of ſneeſing, the moderation to bee uſed in the act of *Venus* or companie with a woman, of other preſervatives of health.
7. What remedies and medicines a womans bodie doth affourd.
8. The medicinable properties in certaine ſtraunge beaſts, namely, the Elephant, Lion, Cammell, Hyæna, Crocodile, Chamæleon, Skinke, River-horſe, and Once.
9. The medicines which we have from the bodies of wild beaſts and tame of the ſame kind. The vertue of milke, butter, and cheeſe: the obſervations thereto belonging: alſo of fat or greaſe.
10. Remedies received from Bores and Swine, from Goats and wild Horſes: alſo from other beaſts, ſerving to cure all manner of diſeaſes.
11. Other remedies for many kinds of maladies taken from living creatures.
12. For the ſpots and wems in the viſage: for the infirmities of the necke and of the breaſt.
13. Againſt the diſeaſes of the ſtomack, loines, and reines.
14. To ſtay a laske, againſt the looſeneſſe of the ſtomacke, to cure the bloudie flix: the inflations of the bellie, ruptures, the provocation to the ſeege without effect, the broad flat long wormes in the bellie, and the collicke.
15. Againſt the torments and paines in the bladder, againſt the ſtone, the infirmities in the privie parts of man or woman: as alſo in the fundament, and the twiſt or groine, and the cure thereof.
16. For the gout, the falling evill, for thoſe that bee blaſted or ſtrucken with a planet, and bones broken.
17. Againſt Melancholie, and thoſe whoſe braines bee troubled with fanſies, the lethargie, dropſie, wild fire or tettar, and the paines or ach of the ſinewes, apt remedies.
18. To ſtaunch bloud, to cure ulcers or old ſores, cankers, and ſcabs.
19. Medicines appropriat to womens diſeaſes.
20. Strange and wonderous things obſerved in ſundrie beaſts.

In ſumme, here be reported medicines, ſtories, and obſervations, to the number of a hundred eightie and five.

Latine Authours alleadged.

M. Varro, L. Piſo, Fabianus, Verres, Antias, Verrius Flaccus, Cato Cenſorius, Servius Sulpitius, Licinius Macer, Celſus, Maſſurius, Sextius Niger who wrate in Greeke, Bythus the Dyrrhachian, Ophilius the Phyſician, and Granius the Phyſician.

Forreine Writers.

Democritus, Apollonius who wrote a booke intituled Myrſis, Miletus, Artemon, Sextilius, Antæus, Homer, Theophraſtus, Lyſimachus, Attalus, Xenocrates who wrote a booke called Diophros, and Archelaus likewiſe that wrote ſuch another, Demetrius, Sotira, Elephantis, Salpe, and Olympias of Thebes, five women and midwives, Diotimus, Iolla, Miction of Smyrna, Aeſchines the Phyſician, Hippocrates, Ariſtotle, Metrodorus, Icacidas the Phyſician, Heſiodus, Dialcon, Cæcilius, Bion the author of the booke Peri Dynameon, Anaxilaus, and king Iuba.

¶ IN

¶ IN THE XXIX. BOOKE ARE CONTAINED medecins from other living creatures.

Chap.

1. The firſt beginning and originall of the Art of Phyſicke: when Phyſicians began firſt to viſit patients lying ſicke in their beds: the firſt Phyſicians that practiſed the cure of ſick perſons, by frictions, ointments, baths, hot-houſes, &c. Of *Chryſippus* and *Eraſiſtratus* their courſe and manner of practiſe: of Empiricke Phyſicke: of *Herophilus* and other famous Phyſicians: how often the Art and ſtate of Phyſicke hath altered: the firſt profeſſed Phyſician at Rome; when it was that he practiſed: what opinion the auncient Romans had of Phyſicians: finally the imperfections and faults in that Art.
2. The medecinable vertues and properties obſerved in wooll.
3. The nature of eggs, and the vertues thereof good in Phyſicke.
4. Remedies in Phyſicke received from doggs and other creatures that are not tame but wild: alſo from foules: and namely againſt the ſtings of the venomous ſpiders Phalangia.
5. Of the Oſtrich greace, and the vertues thereof: of a mad dogg: alſo remedies had from him, a lizard, geeſe, doves, and weaſils.
6. Medecines againſt the falling of the haire, and to make it grow againe: to kill nits: to recover the haire of the eyelids: to cure the dimneſſe and redneſſe, and generally all diſeaſes and accidents of the eyes, as alſo the ſwellings and inflammations in the kernils under the ears.

In ſum, there be medecins and other things worth obſervation in this booke, to the number of five hundred twentie and one.

Latine Authors alledged.

M. Varro, L. Piſo, Verrius Flaccus, Antias, Nigidius, Caſsius Hemina, Cicero, Plautus, Celſus, Sextius Niger who wrote in Greeke, Cæcilius the Phyſician, Metellus Scipio, Ovid the Poet, and Licinius Macer.

Forreine Authours.

Philopator, Homerus, Ariſtotle, Orpheus, Democritus, Anaxilaus.

Phyſicians.

Botrys, Apollodorus, Archidemus, Anaxilaus, Ariſton, Xenocrates, Diodorus, Chryſippus the Philoſopher, Horus, Nicander, Apollonius of Pitane.

¶ IN THE XXX. BOOKE ARE CONTAINED medecins from living creatures, ſuch as were not obſerved *in the former Booke.*

Chap.

1. The beginning of the blacke Science & Art magicke, when it began, who practiſed it firſt, and who were they that brought it into requeſt and reputation. Alſo the reſt of the medecins taken from beaſts.
2. Sundrie kinds of Magicke: the execrable and curſed parts plaid by *Nero*, and of Magicians.
3. Of Wants or Mouldwarps: of living creatures as well tame as ſavage which affourd remedies, and thoſe are digeſted in order according to the diſeaſes.
4. How to make the breath ſweet: againſt mols and ſpots disfiguring the face: remedies for to cure the diſeaſes of the throat and chaws.
5. Againſt the Kings evill, and namely when the ſwelling is broken and doth run: to eaſe the pain of the ſhoulders, the heart and the parts about it.

6. For

Chap.
6. For the diseases of the lungs and liver: also to cure the casting and rejection of bloud upward.
7. Remedies for the bloudie flix, and generally for all diseases of the bellie and the guts.
8. For the gravell and stone, for paines of the bladder, for swelling of the stones and the groine, of apostems or swellings in the kernels and emunctories.
9. Against the gout of the feet and paines of other joynts.
10. Remedies against many diseases that hold the whole bodie.
11. Against the jaundise, the phrensie, fevers, and dropsie.
12. Against the wild fire, carbuncles, fellons, or uncoms, burns, scaldings, and shrinking of the sinews.
13. To staunch bloud, to allay swellings in wounds: also to cure ulcers, greene wounds, and other maladies, divers remedies, all taken from living creatures.
14. To cure womens secret maladies, and to helpe conception.
15. Many receits and remedies huddled togither one with another.
16. Certaine miraculous things observed in beasts.

In sum, this booke sheweth unto us medicins and memorable observations 54.

Latine Authours cited.

M. Varro, Nigidius, M. Cicero, Sextius Niger who wrate in Greeke, and Licinius Macer.

Forraine writers.

Eudoxus, Aristotle, Hermippus, Homer, Apion, Orpheus, Democritus, and Anaxilaus.

Physicians.

Botrys, Horus, Apollodorus, Menander, Archimedes, Arislon, Xenocrates, Diodorus, Chrysippus, Nicander, Apollonius, Pitaneus.

¶ THE XXXI. BOOKE SHEWETH MEDECINES gathered from fishes and vvater creatures: also it delivereth unto us *straunge and wonderfull things as touching the waters.*

Chap.
1. Admirable matter observed in the waters.
2. The difference of waters.
3. The nature and qualitie of waters: how to know good and holesome waters from them that be naught.
4. The reason of some waters that spring on a suddaine, & so likewise cease and give over.
5. Many historicall observations of waters.
6. The manner of water conduits, and how to draw them from their heads: when and how waters are to bee used which naturally are medicinable: how farre forth navigation or sailing upon the salt water is good for the health: medecines made of sea water.
7. Divers kinds of salt: the preparing and making therof, togither with the vertues medicinable of salt, and other considerations thereto belonging.
8. Of the fish Scamber or the Mackrell: of fish pickle: of Alex, a kind of brine or fish sauce.
9. The nature of Salt, and the medecins made of it.
10. Sundrie sorts of nitre, the handling & preparation thereof, the medecines and observation to it pertaining.
11. The nature of Spunges.

This booke comprehendeth medicins and notable observations 266.

Latine Authors alleadged.

M. Varro, Cassius of Parma, Cicero, Mutius, Cor. Celsus, Trogus, Ovid, Polybius, and Sornatius.

Forraine Writers.

Callimachus, Ctesias, Eudicus, Theophrastus, Eudoxus, Theopompus, Polyclitus, Juba, Lycus, Apion, Epigenes,

Epigenes, Pelops, Apelles, Democritus, Thraſillus, Nicander, Menander the comicall Poet, Attalus, Salluſtius, Dionyſius, Andreas, Niceratus, Hippocrates, Anaxilaus.

¶ IN THE XXXII. BOOKE ARE CONTAINED other medicins behind, from fiſhes and vvater creatures.

Chap.

1. Of the fiſh Echeneis, his wonderfull propertie: of the Torpedo, and the Sea-hare: marveilous things reported of the red ſea.
2. The naturall induſtrie, docilitie, and gentleneſſe of ſome fiſh: where they will come to hand and take meat at a mans hand: in what countries fiſhes ſerve in ſtead of oracles.
3. Of thoſe fiſhes that live both on land and water: the medecins and obſervations as touching Caſtoreum.
4. Of the ſea Tortoiſe: many vertues medecinable obſerved in ſundrie fiſhes.
5. Receits of medecins taken from water creatures, digeſted and ſet in order according to ſundrie diſeaſes; & firſt againſt poiſon and venomous beaſts.
6. Of Oiſters, Purple ſhell-fiſhes, and ſea-weeds called Reits: their vertues medicinable.
7. Medecins againſt the ſhedding of the haire: how to fetch haire againe: alſo againſt the infirmities of eies, ears, teeth, and to amend the unſeemly ſpots in the face. (ly.
8. Many medecins ſet downe togither unorder
9. Remedies for the diſeaſes of the liver & ſides, ſtomacke and bellie: others alſo diſorderly put downe.
10. Againſt fevers and agues of all ſorts, and many other infirmities.
11. A rehearſall of all creatures living in the ſea, to the number of 166.

In ſumme, yee have here medecins, ſtories, and obſervations, 928.

Latine Authors.

Licinius Macer, Trebius Niger, Sextius Niger who wrote in Greeke, Ovid the Poet, Caſſius Hemina, Mecœnas, and L. Atteius.

Forreine Writers.

*K. Iuba, Andreas, *Salpe, Pelops, Apelles of Thaſos, Thraſillus, and Nicander.*

* A woman.

¶ THE XXXIII. BOOKE DECLARETH the natures of Mettals.

Chap.

1. In what eſtimation were the mines of gold at the firſt in the old world: the beginning of gold rings: the proportion of gold that our anceſtors had in their treaſure: the degree of knights or gentlemen at Rome: the priviledge to weare gold rings, and who onely might ſo doe.
2. The courts and chambers of judges or juſtices at Rome: how often the gentlemen of Rome and men of arms chaunged their title: the preſents given to valiant ſouldiours for their brave ſervice in the warrs: the firſt crowns of gold that were ſeene.
3. The auncient uſe of gold beſides, both in men & women: of the golden coine: when copper and braſſe money was firſt ſtamped: when gold and ſilver was put into coine: before mony was coined, how they uſed braſſe for exchaunge in old time. At the firſt taxation and levie made of tribute, what was thought to bee the greateſt wealth; and at what rate were the beſt men ſeſſed. How often and at what times gold grew into credit and eſtimation.
4. The mines of gold, and how naturally it is found: when the ſtatue or image of gold was firſt ſeen: medicinable vertues in gold.
5. Of Borras, and ſix properries of Borras in matters of phyſicke: the wonderfull nature that it hath to ſoder all mettals & give them their perfection.
6. Of Silver, Quick-ſilver, Antimonie, or Alabaſter: the droſſe or refuſe of ſilver: alſo the ſcum or ſome of ſilver called Litharge.
7. Of Vermilion: in what account it was in old time among the Romanes: the invention thereof:

Chap.
thereof: of Cinnabaris or Sangdragon used in painting and Physick: divers sorts of vermillon, and how painters use it.
8. Of Quicksilver artificiall: the manner of gilding silver: of touchstones: divers experiments to trie silver: the sundrie kinds therof.
9. Of mirroirs or looking-glasses: of the silver in Ægypt.
10. Of the excessive wealth of some men in money: who were reputed for the richest men: when it was that at Rome they began to make largesse and scatter money abroad to the commons.
11. Of the superfluitie of coine, and the frugalitie of others as touching silver plate, beds and tables of silver: when began first the making of excessive great and massive platters and chargers of silver.
12. Of silver statues: the graving and chasing in silver, & other workmanship in that mettall.
13. Of Sil, of Azur, of superfice Azur named Nestorianum: also of the Azur called Cœlum: that everie yeer these kinds be not sold at one price.

This booke hath in it of medecins, stories, and obsservations, 1215.

Latine Authors alleadged.

L. Piso, Antias, Verrius, M. Varro, Cor. Nepos, Messala, Rufus, Marsus the Poet, Buthus, Iulius Bassus, and Sextius Niger, (who wrote both of Physicke in Greeke) and Fabius Vestalis.

Forraine writers.

Democritus, Metrodorus Scepsius, Menæchmus, Xenocrates, and Antigonus, who wrate all three of the feat and skill of graving, chasing, and emboßing in mettall: Heliodorus, who wrote a booke of the rich ornaments and oblations of the Athenians: Pasiteles, who wrote of wonderfull peeces of worke: Nymphodorus, Timæus who wrate of Alchymie or minerall Physicke: Iolla, Apollodorus, Andreas, Heraclydes, Diagoras Botryensus, Archimedes, Dionysius, Aristogenes, Democritus, Mnesicles, Attalus the Physician, Xenocrates the sonne of Zeno, and Theomnestes.

¶ THE XXXIIII. BOOKE TREATETH of other Mettals.

Chap.
1. Mines of Brasse, Copper, Iron, Lead, & Tin.
2. Sundrie kinds of Brasse, namely Corinthian, Deliacke, and Æginetick.
3. Of goodly candlesticks, & other ornaments of temples.
4. The first images made at Rome: the originall of statues: the honour done to men by statues: sundry sorts and divers forms of them.
5. Of statues pourtraied in long robes; and of many others who first erected images upon columnes and pillars at Rome: when they were allowed first at the cities charges: also what maner of statues the first wer at Rome.
6. Of statues without gowne or cassocke, and some other: the first statue pourtraied on horsebacke at Rome: when the time was that all images as well in publicke places as privat houses were abolished at Rome and put downe: what women at Rome were allowed to have their statues; and which were the first erected in publick place by forreine nations.
7. The famous workemen in casting & making images: the excessive price of images: of the most famous & notable colosses or gyantlike images in the cittie of Rome.
8. Three hundred sixtie and six peeces of worke wrought in brasse by most curious and excellent artificers.
9. What difference there is in Brasse: the divers mixtures with other mettals: how to keepe brasse.
10. Of Brasse ore called Cadmia, and for what it is good in Physicke.
11. The refuse or scum of brasse, Verdegris: the skales of brasse and copper, steele, copper rust, or Spanish greene: of the collyrie or eyesalve called Hieracium.
12. Of a kind of Verdegris named Scolecia: of Chalcitis, *i.* red Vitriol, Mysy, Sory, and Copperose or Vitriol, *i.* blacke Nil.
13. Of the soile of Brasse named white Nil or Tutia: of Spodium, Antispodium, of Diphryges, and the Trient of Servilius.

14. Of

Chap.
14. Of Iron, and mines of Iron: the difference alſo of Iron.
15. Of the temperature of Iron: the medecinable vertues of Iron, and the ruſt of Braſſe and Iron: the skales of Iron, and the liquid plaſtre named of the Greekes Hygemplaſtrum.
16. The mines of Lead: of white and blacke Lead.
17. Of Tin, of Argentine Tin, and ſome other minerals.
18. Medecins made of Lead and refuſe of Lead, of Lead ore, of Ceruſe or Spaniſh white, of Sandaracha or red Orpiment.

In ſum, here are contained notable matters, ſtories, and obſervations, 815.

Latine Authours cited.

L. Piſo, Antias, Verrius, M. Varro, Meſſala, Rufus, Marſus the Poet, Buthus, Iulius Baſſus, and Sextius Niger, who wrote both in Greeke of Phyſicke, and Fabius Veſtalis.

Forreine Writers.

Democritus, Metrodorus Scepſius, Menechmus, Xenocrates, Antigonus, and Duris, (who all foure wrote of graving, chaſing, and emboſſing mettals, a worke entituled Toreutice :) *Heliodorus, who deſcribed the ornaments and oblations hanged up in Athens: Nymphodorus, Andreas, Heraclides, Diagoras, Botryenſis, Iolla, Apollodorus, Archimedes, Dionyſius, Ariſtogenes, Diomedes, Mneſicles, Xenocrates the ſonne of Zeno, and Theomneſtus.*

IN THE XXXV. BOOKE IS SHEWED IN vvhat account Painting vvas in old time.

Chap.
1. The honour and regard of Pictures in times paſt.
2. In what price Images were of old.
3. When Images were firſt erected and ſet up in publicke place, as alſo in private houſes, with their ſcutcheons and arms: the beginning of Pictures: the firſt draught of Picturs in one ſimple colour: the firſt Painters, and how auncient they were in Italie.
4. Of Roman Painters: the firſt time that Painting and Pictures grew into credit: who they were that drew their victories in colors upon tables, and ſet them forth to be ſeen: and when forreine Pictures began to be of ſome good reckoning at Rome.
5. The art and cunning of drawing pictures: the colours that Painters uſe.
6. Of colours naturall and artificiall.
7. What colours will not abide to be laid wet: what colours they painted withall in old time: at what time firſt the combats of ſword fencers at utterance, were ſet foorth in painted tables to be ſeene.
8. How auncient the art of Painting is, when it began: a catalogue of the excellent workemen in that kind, and how their workemanſhip was prized and eſteemed.
9. The firſt that contended & ſtrove who could paint beſt: alſo who firſt uſed the pencill.
10. Of Pictures ſo lively drawne that birds were deceived therwith: what is the hardeſt point in Painting.
11. The way to ſtill birds that they ſing and chatter not: who was the firſt that deviſed to enamell, or to ſet colours with fire, and with the pencill painted arched roufs and vaults; and among, the wonderfull prices that Pictures were ſet at in old time.
12. The firſt inventours of potterie: of images made of clay & caſt in moulds: alſo of veſſels made of earth, and their price.
13. Sundrie ſorts of earth for potters: of the duſt or ſand of Puteoli: of other kinds of earth which turne to be hard ſtone.
14. Of walls made by caſting in moulds: alſo of bricke walls, and the manner of making them.
15. Of Brimſtone and Alume, their divers kinds and uſe in Phyſicke.
16. Of ſundrie ſorts of earth, & namely Samia, Eretria, Chia, Selenuſia, Pingitis, and Ampelitis, and the uſe they have in medecins.
17. Sundrie ſorts of chalke for Fullers to ſcoure clothes, to wit, Cimolia, Sarda, Vmbrica, of a kind of earth called Saxum, as alſo that giveth a ſilver color & is called Argentaria.
18. Who

Chap.
18. Who were they that enriched their slaves after they were enfranchised, and who they were of slaves came up and grew to great wealth and power.

Chap.
19. Of the earth that commeth out of the Island Galata: of the earth Clupea: also, of that which commeth from the Balear Islands, and the Isle Ebusa.

In sum, the medecins, histories, and observations in this booke, amount to 956.

Latine Authors alledged.

Messala the Orator, Messala the elder, Fenestella, Atticus, Verrius, M. Varro, Cor. Nepos, Decius Eculeo, Mutianus, Melissus, Vitruvius, Cassius Severus Longulanus, Fabius Vestalis who also wrote of Painting.

Forraine Writers.

Pasiteles, Apelles, Melanthius, Asclepiodorus, Euphranor, Parasius, Heliodorus who wrote of the pictures and other ornaments set up at Athens, Metrodorus (who likewise wrote of Architecture, to wit Masonrie and Carpentrie:) Democritus, Theophrastus, Apion the Grammarian who also made a booke of Minerall or Chymick Physicke, Nymphodorus, Andreas, Heraclides, Iolla, Apollodorus, Diagoras Botryensis, Archidemus, Dionysius, Aristogenes, Demanes, Menecles, Xenocrates the scholler of Zeno, and Theomnestus.

¶ THE XXXVI. BOOKE TREATETH of Stones.

Chap.
1. The nature and propertie of stones: the superfluitie and expense about buildings, of marble.
2. Who first shewed at Rome columns of marble in publicke place.
3. The first that brought columns of marble to Rome out of forrein countries.
4. The first workemen that were commended for cutting in marble: and at what time that invention began.
5. Excellent peeces of worke in marble to the number of 126. The cunning and curious workemen themselves. Of the white marble of the Island Paros. The stately and admirable sepulchre Mausoleum.
6. When they began at Rome to build with marble: who was the first that overcast the outside of walls with marble: at what times this or that kind of marble was taken up in building at Rome: who cut marble first and brought it into leaves or thin plates by cutting: the manner thereof: also of sand.
7. Of the hard stone of Naxos, and Armenia: sundrie kinds of marble.
8. Of the Alabastre marble of Lygdinum and Alabandicum.
9. Of the great obeliske at Thebes in Ægypt, and at Alexandria: of that also which is in the great cirque or shew-place at Rome.

Chap.
10. Of that obeliske which standeth in Mars field at Rome, and serveth for a Gnomon or Stile in a quadrant or dyall.
11. Of a third obeliske at Rome in the Vatican.
12. Of the Pyramides in Ægypt, and a monstrous Sphynx of a wonderfull heigth.
13. Of the Mazes or Labyrinths in Ægypt, the Isle Lemnos, and in Italie.
14. Of hanging gardens made upon terraces: of a great towne where all the houses were built upon vaults and arches seeming to hang in the aire: also of the temple of *Diana* in Ephesus.
15. Of the stately temple of Cyzicum: of a certaine rocke of stone called Fugitive: of an Echo that rendreth the voice seven fold: of an house built without naile or pin: of the sumptuous and woonderfull buildings at Rome.
16. Sundrie kinds of the Loadstone: the medicinable vertues and properties thereof.
17. Of certaine stones which soone eat & consume dead bodies that be laid therein: of others againe that preserve them long: of the stone Asius, and the vertues of it.
18. Of Ivorie digged out of the earth: of stones converted into bones: of stones that represent palms imprinted in them, and of other kinds.

19. Of

Chap.
19. Of Curalius, or a kind of Marqueſite called Pyrites, and the vertues thereof: of the ſtone Oſtracites, and Amiantus & the properties of it: of the ſtone Melitites, and the power thereof: of the Geat and his medicinable properties: of Spunge ſtones: of the ſtone Phrygius and his nature.
20. Of the Bloud-ſtone, and five ſorts of it; and of Schiſtus.
21. Foure kinds of the Ægle ſtone, of the ſtone within the bellie of them called Callimus: of the ſtones Samius & Arabus: alſo of Pumiſh ſtones.
22. Of ſtones meet for to make Apothecaries mortars, of ſoft ſtones, of the ſtone Specularis, & of Flints, of the ſhining ſtone Phengites, of whetſtones, and other ſtones meet for building: of ſtones that will reſiſt the fire and abide all weather and tempeſt.
Chap.
23. Of Ceſterns, of Limeſtone, ſundrie ſorts of ſand, the tempering of ſand and lime for mortar: the ill building of ſome walls: of parget and roughcaſt: alſo of columns and buttreſſes in building.
24. The medicinable vertues of Quickelime, of Maltha, and Plaſtre.
25. Of pavements: when they were firſt uſed at Rome: of terraces and paved floores lying open to the aire above: of certaine pavements called Græcanica: and when arched and embowed worke firſt began.
26. The firſt invention of glaſſe: the manner of making it of a kind of glaſſe called Obſidianum: ſundrie ſorts of glaſſe in great varietie.
27. Wonderfull operations of fire: the vertues thereof medicinable, and the prodigious ſignifications and preſages given by fire.

In ſum, here you may find medecins, ſtories, and obſervations, in all 523.

Latine Authors.

M. Varro, Celius, Galba, C. Ictius, Mutianus, Cor. Nepos, L. Piſo, Tubero, Seneca, Fabius Veſtalis, Annius, Facialis, Fabius, Cato Cenſorius, & Vitruvius.

Forraine writers.

Theophraſtus, Praxiteles, K. Iuba, Nicander, Sotacus, Sudines, Alexander Polyhiſtor, Apion, Pliſtonicus, Duris, Herodotus, Euemerus, Ariſtagoras, Dionyſius, Artemidorus, Butoridas, Antiſthenes, Democritus, Demoteles, and Lyceas.

¶ IN THE XXXVII. BOOKE IS DECLARED the originall of pretious ſtones.

Chap.
1. The pretious ſtone of *Polycrates* the tyrant, alſo of K. *Pyrrhus*: who were the beſt lapidaries, & could cut excellently well in ſtone: the firſt man that at Rome ware a pretious ſtone upon his finger.
2. The rich ſtones that were ſhewed in the triumph of *Pompey* the Great: the nature and vertues of the Cryſtall ſtone: the coſtly veſſels made thereof, and the ſuperfluous expence that way: when the veſſels of Caſſidoine called Myrrhina, were firſt invented: the waſtfull expence in them: the nature and properties of them: what lies the Greekes have told as touching Ambre.
3. The true originall and beginning of Ambre: the medicinable vertues therof: the ſundrie kinds, and the exceſſive coſt that folke were at to get them: of Lincurium and the properties of it.
Chap.
4. Of Diamonds, and their kinds: their vertues: alſo of Pearls.
5. Of the Hemerauld and the divers ſorts of it: of other greene pretious ſtones cleare and tranſparent.
6. Of the true Opale ſtones, their divers kinds, and which be counterfeit: the meanes how to try them: alſo of divers other rich ſtones.
7. Of Rubies and Carbuncles: which be counterfeit: the wayes to prove whether they be good or no. Alſo of other ardent ſtones like fire.
8. Of the Topaze, and all the kinds: of the Turquois: of other greene ſtones that bee not cleare through.
9. Sundrie ſorts of the Iaſper ſtone.
10. Of certaine pretious ſtones ſet downe in order

Chap.
order according to the Alphabet.
11. Of ſome pretious ſtones which take their denomination of the parts of mans bodie: alſo from other living creatures, & of thoſe which have the names from other things.
Chap.
12. Of other new ſtones growing naturally: of counterfeit and artificiall ſtones: of their ſundrie forms and faſhions.
13. The manner and way how to proove fine ſtones from other.

In ſumme, here are to be red of notable matters, worthie hiſtories, and ſpeciall obſervations, to the number of 1300, gathered out of

Latine Authors.

M. Varro, the Records of Romane triumphs, Mecœnas, Iacchus, and Cornelius Bocchus.

Forreine Writers.

K. Iuba, Xenocrates the diſciple of Zeno, Sudines, Æſchylus, Philoxenus, Euripides, Nicander, Satyrus, Theophraſtus, Chares, Philomenes, Democrates, Xenotimus, Metrodorus, Sotacus, Pytheas, Timæus the Sicilian, Niceas, Theochreſtus, Aſaruba, Mnaſea, Theomenes, Cteſias, Mithridates, Sophocles, K. Archelaus, Calliſtratus, Democritus, Iſmenias, Olympicus, Alexander Polyhiſtor, Apion, Horus, Zoroaſtres, and Zachalias.

THE SECOND BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

Chap. I.

Whether the World be finite, and but one.

C THE World, and this, which by another name men have thought good to call Heaven (under the pourprise and bending cope whereof, all things are emmanteled and covered) beleeve wee ought in all reason to be a God, eternall, unmeasurable, without beginning, and likewise endlesse. What is without the compasse hereof, neither is it fit for men to search, nor within mans wit to reach and conceive. Sacred it is, everlasting, infinite, all in all, or rather it selfe all and absolute: finite and limited, yet seeming infinite: in all motions, orderly and certaine: howbeit in shew and judgement of man, uncertaine: comprehending and containing all whatsoever, both without and within: Natures work, and yet very Nature it D selfe, producing all things. Great follie it is then, and meere madnesse, that some have devised and thought in their mind to measure it; yea, and durst in writing set down the dimensions thereof: that others againe, by occasion hereupon taken or given, have delivered and taught, That worlds there were innumerable: as if we were to beleeve so many natures as there were Heavens: or if all were reduced to one, yet there should bee so many sunnes and moones nevertheless, with the rest also of those unmeasurable and innumerable starres in that one: as though in this pluralitie of worlds we should not alwaies meet with the same question still at every turne of our cogitation, for want of the utmost and some end to rest upon: or, if this infiniteness could possibly be assigned to Nature, the worke-mistresse and mother of all; the same might not bee understood more easily in that one Heaven which we see; so great a worke especially and frame as E it is. Now surely a fantasticall follie it is of all other follies, to goe forth of it, and so to keepe a seeking without, as if all things within were well and cleerely knowne alreadie: as who would say, a man could take the measure just of any third thing, who knoweth not his owne: or the mind of man see those things, which the very world it selfe may not receive.

Chap. II.

Of the forme and figure of the World.

F THat the forme of heaven is round, in fashion of an absolute and perfect globe, the name thereof principally, and the consent of all men agreeing to call it in Latine *Orbis*, *i.* a roundle; as also many naturall reasons, do evidently shew: to wit, not only for that such a figure every way falleth and bendeth upon it selfe, is able to beare and uphold it selfe, includeth and compriseth it selfe, having need thereto of no joints, as finding in any part therof no end nor beginning: or because this forme agreeth best to that motion, whereby ever and anon it must turne about:

(as hereafter it ſhall appeare) but alſo becauſe the eieſight doth approve the ſame: in that, looke G
which way ſoever you will thereupon, it ſeemeth to bend downeward, round and even on all
ſides, ſhewing a juſt Hemiſphere; a thing not incident poſſibly to any other figure.

Chap. III.

Of the motion of Heaven.

THat the World thus framed, in a continuall and unceſſant circuit, with unſpeakeable ſwiftneſſe turneth round about in the ſpace of foure and twentie houres, the riſing and ſetting ordinarily of the ſun hath left cleere and doubtleſſe. Now, whether it being in height infinite, and therefore the ſound of ſo huge a frame, whiles H
it is whirled about, and never reſteth in that revolution, cannot be heard with our eares, I cannot ſo eaſily reſolve and pronounce: no more I aſſure you, than I may avouch the ringing of the ſtarres that are driven about therewith, and roll withall their owne ſpheres: or determine, that as the heaven mooveth, it doth repreſent indeed a pleaſant and incredible ſweet harmonie both day and night: although to us within, it ſeemeth to paſſe in ſilence. That there be imprinted therein the pourtraicts of living creatures, and of all things beſides without number, as alſo that the bodie thereof is not all over ſmooth and ſlicke (as we ſee in birds egs) which excellent authors have tearmed *Tenerum*, is ſhewed by good arguments: for that by the fall of naturall ſeeds from thence of all things, and thoſe for the moſt part blended and mixed one with another, there are engendred in the world and the ſea eſpecially, an infinite number of ſtrange I
and monſtrous ſhapes. Over and beſides, our eieſight teſtifieth the ſame; whiles in one place there appeareth the reſemblance of a waine or chariot, in another of a beare, the figure of a bull
in this part, of a * letter in that, and principally the middle circle over our head, more white * Δ
than the reſt, toward the North pole.

Chap. IIII.

Why the World or Heaven is called Mundus.

VErily for mine owne part, moved I am and ruled by the generall conſent of all nations. For, the World, which the Greekes by the name of ornament, called K
κοσμος, wee for the perfect neatneſſe and abſolute elevancie thereof, have tearmed *Mundus*. And without all queſtion, Heaven wee have named *Cælum*; as it were, Engraven and garniſhed, according as *M. Varro* interpreteth it. And hereto maketh much the orderly ranke of things therein, and namely the circle called *Signifer*, or the Zodiake, ſet forth and divided by the formes of twelve living creatures therein portraied: together with the manner of the ſunnes race throughout them, keeping ever the ſame courſe ſtill, for ſo many ages paſt.

Chap. V.

Of the foure Elements. L

NEither ſee any doubt made as touching the elements, That they bee foure in number. The higheſt, Fire: from whence are thoſe bright eies of ſo many ſhining ſtarres. The next, Spirit, which the Greekes and our countrimen by one name called Aire: Vitall this element is, and as it giveth life to all things, ſo it ſoone paſſeth through all, and is intermedled in the whole: by the power wherof, the Earth hangeth poiſed and ballanced juſt in the middeſt, together with the fourth element, of the Waters. Thus by a mutuall intertainement one of another, divers natures are linked and knit together: ſo as the light elements are kept in and reſtrained by certaine
weights of the heavier, that they flie not out: and contrariwiſe, the maſſier bee held up, that they M
fall not downe, by meanes of the lighter, which covet to be aloft. So, through an equall endevor to the contrarie, each of them hold their owne, bound as it were by the reſtleſſe circuit of the very world: which, by reaſon that it runneth evermore upon it ſelfe, the earth falleth to bee loweſt, and the middle of the whole: and the ſame hanging ſteadily by the poles of the Heaven, peiſeth

thoſe

A thoſe elements by which it hangeth in a counterballance. Thus it alone reſteth vnmooveable, whiles the whole frame of the world turneth about it: and as it is knit and united by all, ſo all reſt and beare upon the ſame.

Chap. VI.

Of the ſeuen Planets.

B Betweene the earth and heaven, there hang in the ſame ſpirit or element of aire abovenamed, ſeven ſtarres, ſevered one from another, and diſtant aſunder certaine ſpaces, which of their variable motion we call wandering planets, whereas indeed none ſtray and wander leſſe than they. In the middeſt of them the Sunne taketh his courſe, as being the greateſt and moſt puiſſant of all the reſt: the very ruler, not of times and ſeaſons onely, and of the earth, but alſo of the Starres and Heaven it ſelfe. Beleeve we ought, this Sunne to be the very life, and (to ſpeake more plainely) the ſoule of the whole world, yea, and the principall governance of nature: and no leſſe than a God or divine power, conſidering his workes and operations. He it is that giveth light to all things, and riddeth them from darkeneſſe: hee hideth the other ſtarres, and ſheweth them againe: he ordereth the ſeaſons in their alternative courſe: he tempereth the yeere, ariſing ever freſh and new againe, for the benefite and good of the world. The lowring dimneſſe of the skie he diſpatcheth, yea, and cleareth the darke miſts and clowdineſſe of mans mind: to other ſtars likeC wiſe he lendeth out his owne light. Moſt excellent, right ſingular hee is, as ſeeing all, and hearing all. For this, I ſee, is the opinion of *Homer* (the prince of learning) as touching him alone.

Chap. VII.

Of God.

D I Suppoſe therefore that to ſeeke after any ſhape of God, and to aſſigne a forme and image to him, bewraieth mans weakeneſſe. For God, whoſoever he be [if haply there be any other, but the very world] and in what part ſoever reſiant, all ſenſe he is, all ſight, all hearing: hee is all life, all ſoule, all of himſelfe. And verily to beleeve that there be gods innumerable, and thoſe according to mens vertues and vices, to wit, Chaſtitie, Concord, Vnderſtanding, Hope, Honour, Clemencie, Faith; or (as *Democritus* was of opinion) That there are two gods onely, and no more, namely, Puniſhment, and Benefite: theſe conceits, I ſay, make mens idleneſſe and negligence the greater. But all commeth of this, That fraile and craſie mortall men, remembring well their owne infirmitie, have digeſted theſe things a part, to the end that each one might from thence chuſe to worſhip and honour that whereof he ſtood in need moſt. And hereupon it is, that in ſundrie nations we find the ſame gods named diverſly, according to mens devotion: and in one region ye ſhall have innumerable gods. The infernall powers beneath likewiſe, yea, and many plagues have been raunged by themſelves, and E reckoned for gods in their kind, whiles with trembling feare wee deſire that they were pacified. Which ſuperſtition, hath cauſed a chappel to be dedicated to the Fever, in the mount Palatium, even by publick order from the State: likewiſe an altar to *Orbona*, neere the temple of *Lares*: beſides another erected to Bad fortune in Eſquiliæ. And thereby we may conceive that there are a greater number of gods in heaven above, than of men upon earth: ſince that every one of their own accord make ſo many gods as they liſt, fitting themſelves with *Iunoes* and *Genij* for their patrons. Now, certain nations there be that account beaſts, yea, & ſome filthy things, for gods; yea, and many other matters more ſhamefull to be ſpoken: ſwearing by ſtinking meats, by garlicke, and ſuch like. But ſurely, to beleeve that gods have contracted marriage, & that in ſo long continF uance of time no children ſhould bee borne betweene them: alſo that ſome are aged, and ever hoarie and gray: others againe young and alwaies children: that they be blacke of colour and complexion, winged, lame, hatched of egs, living and dying each other day; are meere fooleries, little better than childiſh toies. But it paſſeth and exceedeth all ſhameleſſe impudencie, to imagine adulteries among them: eftſoones alſo chiding, ſcolding, hatred, and malice: and more than that, how there bee gods, patrones of theft and wickedneſſe. Whereas in very deed, a god

unto a man is he, that helpeth a man: and this is the true and direct pathway to everlasting glo- G
rie. In this way went the noble Romans in old time: and in this tract at this day goeth, with hea-
venly pace, *Vespasian Augustus*, both he and his children: *Vespasian*, I say, the most mightie ruler
of the whole world: whiles hee relieveth the afflicted State of the Romane Empire and Com-
monweale. And this is the most auncient manner of requitall to such benefactours, That they
should be canonized gods. And hereof came the names as well of all other gods, as of the starrs
and planets (which I have mentioned before) in recognisance of mens good deserts. As for
Iupiter verily and *Mercurie*, and other princes raunged among the gods, who doubteth but
that they were called otherwise among themselves? and who confesseth not how these bee celestiall
denominations, to expresse and interprete their nature?

Now, That the soveraigne power and deitie, whatsoever it is, should have regard of mankind, H
*is a toy and vanitie worthie to be laughed at. For can wee chuse but beleeve, can wee make any
doubt, but needs that Divinitie and Godhead must be polluted with so base and manifold a mi-
nisterie? And hardly in manner may it be judged, whether of the twaine be better and more ex-
pedient for mankind to beleeve, that the gods have regard of us; or to bee perswaded that they
have none at all: considering, That some men have no respect and reverence at all of the gods,
others againe so much, as it is a very shame to see their superstition. Addicted these are and de-
voted to serve them by forraine magicke ceremonies: they weare their gods upon their fingers
in rings, yea, they worship and adore monsters: they condemne and forbid some meats; yet they
devise others for them. Impose they doe upon them hard and vengible charges to execute, not
suffering them to rest and sleepe in quiet. They chuse neither mariages, nor children, ne yet any I
one thing els, but by the approbation and allowance of sacred rites and mysteries. Contrariwise,
others there are so godlesse, that in the very Capitoll they use deceit, and forsweare themselves
even by *Iupiter*, for all that he is readie to shoot his thunderbolts. And as some speed well ynough
with their wicked deeds and irreligion: so others againe feele the smart and are punished by the
saints whom they adore, and the holy ceremonies which they observe.

*Here let Christians take heed, and bee thankfull to God for the light revealed unto them out of the holy scriptures.

Howbeit, betweene both these opinions, men have found out to themselves a middle god-
head and divine power, to the end that wee should give still a more uncertaine conjecture as tou-
ching God indeed. For, throughout the whole world, in every place, at all times and in all mens
mouths, Fortune alone is sought unto and called upon: she only is named and in request; shee
alone is blamed, accused, and endited. None but she is thought upon; she only is praised, she on- K
ly is reproved and rebuked: yea, and worshipped is shee with railing and reprochfull tearms: and
namely when she is taken to be wavering and mutable: and of the most sort supposed also blind:
roving at randon, unconstant, uncertaine, variable, and favouring the unworthie: whatsoever is
laid forth, spent and lost, whatsoever is received, woon & gotten: all that comes in, all that goes
out, is imputed to Fortune: and in all mens reckonings and accounts, she makes up the booke,
and sets all streight. So abject wee are, so servile also and enthralled to Lots, that even the very
chaunce of Lots is taken for a god, than which nothing maketh us more doubtfull and ignorant
of God.

Now there are another sort, that reject Fortune and Chaunce both, & wil not abide them: but
attribute the events and issues of things, to their owne severall starres, and goe by the fatall ho- L
roscope or ascendent of their nativitie: affirming that the same shal ever befall, which once hath
been set downe and decreed by God: so as hee for ever after may sit still and rest himselfe. And
this opinion beginneth now to settle and take deepe root, insomuch as both the learned, and al-
so the rude and ignorant multitude, run that way on end. From hence (behold) proceed the war-
nings & admonitions of lightenings, the fore-knowledge by Oracles, the predictions of Sooth-
saiers, yea, and other contemptible things not worthie to bee once spoken of; as sneesing, and
stumbling with the foot, are counted matters of presage. *Augustus Cæsar* of famous memorie
hath made report and left in writing, that his left foot shoe was untowardly put on before the
right, on that very day, when hee had like to have miscarried in a mutinie among his souldiors. M

Thus these things every one doe enwrap and entangle silie mortall men, void of all forecast
and true understanding: so as this only point among the rest remaineth sure and certain, name-
ly, That nothing is certaine: neither is there ought more wretched and more prowd withall, than
man. For all lively creatures els take care onely for their food: wherein Natures goodnesse
and bountie of it selfe is sufficient: which one point verily is to bee preferred before all good

things

things whatsoever, for that they never thinke of glorie, of riches, of seeking for dignities and promotions, nor over and above, of death. Howbeit, the beleefe that in these matters the gods have care of mens estate, is good, expedient, and profitable in the course of this life: as also that the vengeance and punishment of malefactours may well come late (whiles God is busily occupied otherwise in so huge a frame of the world) but never misseth in the end: and that man was not made next in degree unto God, for this, That he should bee welneere as vile and base as the bruit beasts. Moreover, the cheefe comfort that man hath, for his imperfections in nature, is this, That even God himselfe is not omnipotent, and cannot do all things. For neither is he able to worke his owne death, would hee never so faine, as man can doe when hee is wearie of his life; the best gift which he hath bestowed upon him, amid so great miseries of his life: nor endow mortall men with everlasting life: ne yet recall, raise, and revive those that once are departed and dead: nor bring to passe, that one who lived, did not live: or hee that bare honourable offices, was not in place of rule and dignitie. Nay, he hath no power over things done and past, save only oblivion: no more than he is able to effect (to come with pleasant reasons and arguments to prove our fellowship therin with God) that twise tenne should not make twentie: and many such things of like sort. Whereby (no doubt) is evidently proved, the power of Nature, and how it is shee, and nothing els, which wee call God. I thought it not impertinent thus to divert and digresse to these points, so commonly divulged, by reason of the usuall and ordinarie questions as touching the Essence of God.

Chap. VIII.

Of the nature of *Planets*, and their circuit.

LEt us returne now to the rest of Natures workes. The Starres which we said were fixed in the heaven, are not (as the common sort thinketh) assigned to every one of us; and appointed to men respectively: namely, the bright and faire for the rich; the lesse for the poore: the dimme for the weak, the aged and feeble: neither shine they out more or lesse, according to the lot & fortune of every one, nor arise they each one together with that person unto whom they are appropriate; and die likewise with the same: ne yet as they set and fall, do they signifie that any bodie is dead. There is not, ywis, so great societie betweene heaven and us, as that together with the fatall necessitie of our death, the shining light of the starres should in token of sorrow go out and become mortall. As for them, the truth is this; when they are thought to fall, they doe but shoot from them a deale of fire, even of that abundance and overmuch nutriment which they have gotten by the attraction of humiditie and moisture unto them: like as we also observe daily in the wikes and matches of lampes or candles burning, with the liquor of oile. Moreover, the cœlestial bodies, which make and frame the world, and in that frame are compact and knit together, have an immortall nature: and their power and influence extendeth much to the earth: which by their effects and operations, by their light and greatnesse might be knowne, notwithstanding they are so high and subtile withall, as we shall in due place make demonstration. The manner likewise of the heavenly Circles and Zones shall bee shewed more fitly in our Geographicall treatise of the earth, for as much as the consideration thereof appertaineth wholly thereunto: onely we will not put off, but presently declare the devisers of the Zodiake, wherein the signes are.

The obliquitie and crookednesse thereof, *Anaximander* the Milesian is reported to have observed first, and thereby opened the gate and passage to Astronomie, and the knowledge of all things: and this happened in the 58 Olympias. Afterwards *Cleostratus* marked the signes therein, and namely those first of *Aries* and *Sagitarius*. As for the Sphere it selfe, *Atlas* devised long before. Now for this time we will leave the very bodie of the starrie heaven, and treat of al the rest betweene it and the earth.

Certaine it is, that the Planet which they call *Saturne*, is the highest; and therefore seemeth least: also that hee keepeth his course, and performeth his revolution in the greatest circle of all: and in thirtie yeeres space at the soonest, returneth againe to the point of his first place. Moreover, that the mooving of all the Planets, and withall of Sunne and Moone, go a contrarie course unto the starrie heaven, namely, to the left hand, (*i.* Eastward:) whereas the said heaven alwaies *Saturne.*

hasteneth to the right [*i.* Westward.] And albeit in that continual turning with exceeding celeri- G
tie, those planets be lifted up aloft, and carried by it forcible into the West, and there set: yet by a contrarie motion of their owne, they passe every one through their severall waies Eastward; and all for this, that the aire rolling ever one way, and to the same part, by the continuall turning of the heaven, should not stand still, grow dull, and as it were congealed, whiles the globe thereof resteth idle; but dissolve and cleave, parted thus and divided, by the reverberation of the contrarie beames, and violent crosse influence of the said planets. Now, the Planet *Saturne* is of a
Iupiter. cold and frozen nature, but the circle of *Iupiter* is much lower than it, and therefore his revolu-
Mars. tion is performed with a more speedie motion, namely, in twelve yeares. The third, of *Mars*, which some call the Sphere of *Hercules*, is firie and ardent, by reason of the Sunnes vicinitie, and well neere in two yeares runneth his race. And hereupon it is, that by the exceeding heat of *Mars*, and H
the vehement cold of *Saturne*, *Iupiter* who is placed betwixt, is well tempered of them both, and
The Sunne. so becommeth good & comfortable. Next to them is the race of the Sunne, consisting verily of 360 parts [or degrees:] but to the end that the observation of the shaddowes which hee casteth, may returne againe just to the former markes, five daies be added to every yeere, with the fourth part of a day over and above. Whereupon, every fift yeere leapeth, and one odde day is set to the rest: to the end that the reckoning of the times and seasons might agree unto the course of
Venus. the Sunne. Beneath the Sunne a goodly faire starre there is, called *Venus*, which goeth her compasse, wandering this way and that, by turnes: and by the very names that it hath, testifieth her emulation of Sunne and Moone. For all the while that shee preventeth the morning, and riseth Orientall before, she taketh the name of *Lucifer* (or Day-starre,) as a second sun hastening the I
day. Contrariwise, when shee shineth from the West Occidentall, drawing out the day light at length, and supplying the place of the Moone, shee is named *Vesper*. This nature of hers, *Pythagoras* of Samos first found out, about the 42 Olympias: which fell out to bee the 142 yeere after the foundation of Rome. Now this planet, in greatnesse, goeth beyond all the other five: and so cleere and shining withall, that the beames of this one starre cast shaddowes upon the earth. And hereupon commeth so great diversitie and ambiguitie of the names thereof: whiles some haue called it *Iuno*, others *Isis*, and othersome the Mother of the gods. By the naturall efficacie of this starre, all things are engendred on earth. For whether she rise East or West, she sprinkleth all the earth with dew of generation, and not onely filleth the same with seed, causing it to conceive, but stirreth up also the nature of all living creatures to engender. This planet goeth through the K
circle of the Zodiake in 348 daies, departing from the sunne never above 46 degrees, as *Timæus* was of opinion. Next unto it, but nothing of that bignesse and powerfull efficacie, is the starre
Mercurie. *Mercurie*, of some cleped *Apollo*: in an inferiour circle hee goeth, after the like manner, a swifter course by nine daies: shining sometimes before the sunne rising, otherwhiles after his setting, never farther distant from him than 23 degrees, as both the same *Timæus* and *Sosigenes* doe shew. And therefore these two planets have a peculiar consideration from others, and not common with the rest abovenamed. For those are seene from the sunne a fourth, yea, and third part of the heaven: oftentimes also in opposition full against the sunne. And all of them have other greater circuits of full revolution, which are to be spoken of in the discourse of the great yeare.

L

Chap. IX.

Of the Moones nature.

The Moone. BVt the planet of the Moone, being the last of all, most familiar with the earth, and devised by Nature for the remedie of darknesse, outgoeth the admiration of all the rest. She with her winding and turning in many and sundrie shapes, hath troubled much the wits of the beholders, fretting and fuming, that of this star, being the neerest of all, they should be most ignorant; growing as it doth, or els waining, evermore. One while bended pointwise into tips of horns: another whiles divided just in the halfe, and anon againe in compasse round: spotted sometime and M
darke, and soone after on a suddain exceeding bright: one while big and full, and another while all at once nothing to be seene. Sometime shining all night long, and otherwhiles late it is ere she riseth: she also helpeth the sunnes light some part of the day: eclipsed, and yet in that eclipse to be seene. The same at the moneths end lieth hidden, at what time (it is supposed) shee labou-

reth

A reth and travaileth not. At one time yee ſhall ſee her below, and anon aloft: and that not after one manner, but one while reaching up cloſe to the higheſt heaven, and another while readie to touch the mountains: ſometimes mounted on high into the North, & ſometime caſt downe below into the South. Which ſeverall conſtitutions and motions in her, the firſt man that obſerved, was *Endymeon*: and therupon the voice went, That he was enamoured upon the Moone. Certes, thankfull we are not, as we ought to be, unto thoſe who by their travaile and careſull endevor, have given us light in this Light. But delighted rather we are wonderouſly (ſuch is the peſtilent wit and wicked diſpoſition of man) to record in Chronicles, bloudſhead and murders: that leaud acts and miſcheevous deeds ſhould be knowne of them, who otherwiſe are ignorant of the world it ſelfe. Well, to proceed, the Moone being next to the centre, and therfore of leaſt
B compaſſe, performeth the ſame courſe and circuit in ſeven and twentie daies, and one third part of a day: which *Saturne* the higheſt planet runneth (as we ſaid before) in thirtie yeers. After this, making ſtay in conjunction with the Sun two daies, forth ſhe goeth, and by the thirtieth day at the moſt, returneth to the ſame point and miniſterie againe: the miſtreſſe, if I may ſo ſay, and the teacher of all things Aſtronomicall, that may be knowne in heaven. Now by her meanes are we taught that the yeare ought to be divided into twelve moneths: for as much as, the Moone meeteth or overtaketh the Sun ſo many times before hee returneth to the ſame point where he began his courſe. Likewiſe that ſhee looſeth her light (as the reſt of the planets) by the brightnes of the Sunne when ſhee approcheth neere. For borrowing wholly of him her light, ſhee doth ſhine: much like to that which we ſee glittering & flying too and fro in the reflection and reverC beration of the Sunne-beames from the water. And hereupon it is, that ſhee, by her more mild and unperfect power diſſolveth, yea and encreaſeth, ſo great moiſture as ſhe doth; which the Sun beames may conſume. Hence it commeth alſo, that her light is not even and equall in ſight, becauſe then only when ſhe is oppoſite unto the Sunne, ſhe appeareth full: but all other daies ſhe ſheweth no more to us here on earth, than ſhe conceiveth light of the Sunne. In time verily of conjunction or change, ſhe is not ſeene at all: for that whiles ſhe is turned away, all the draught of light, ſhe caſteth thither backe againe, from whence ſhee received it. Now, that theſe planets are fed doubtleſſe with earthly moiſture, it is evident by the Moone: which ſo long as ſhe appeareth by the halfe in ſight, never ſheweth any ſpots, becauſe as yet ſhee hath not her full power of light ſufficient, to draw humour unto her. For theſe ſpots bee nothing els but the dregs of the
D earth, caught up with other moiſture among the vapors.

Chap. X.

Of the Sunne and Moones eclipſe: and of the Night.

MOreover, the eclipſe of the Moone and Sunne (a thing throughout the vniverſall contemplation of Nature moſt mervellous, and like a ſtrange and prodigious wonder) doth ſhew the bigneſſe and ſhadow of theſe two planets. For evident it is, that the Sun is hidden by the comming betweene of the Moon: and the Moone again by the oppoſition of the Earth: alſo that the one doth
E quit the other, in that the Moone by her interpoſition bereaveth the Earth of the Sunnes raies, and the Earth again doth the ſemblable by the Moone. Neither is the Night any thing els but the ſhade of the Earth. Now the figure of this ſhaddow reſembleth a pyramis, pointed forward, or a top turned upſide downe: namely, when as it falleth upon it with the ſharp end thereof, nor goeth beyond the heights of the Moone; for that no other ſtarre is in that maner darkened: and ſuch a figure as it, alwaies endeth point-wiſe. And verely, that ſhaddows grow to nothing in great ſpace of diſtance, appeareth by the exceeding high flight of ſome foules. So as the confines of theſe ſhadowes, is the utmoſt bound of the aire, and the beginning of the fire. Above the Moone all is pure and lightſome continually. And we in the night doe ſee the ſtars, as candles or any other lights from out of darknes. For theſe cauſes alſo the Moone in the night
F ſeaſon is eclipſed onely. But the reaſon why the Sunne and Moone are not both in the eclipſe at ſet times and monthly, is the winding obliquitie of the Zodiake, and the wandering turnings of the Moone one while farre South, and another while as much North (as hath been ſaid:) and for that theſe planets do not alwaies in their motion meet juſt in the points of the eclipticke line, to wit in the head or taile of the Dragon.

Chap. XI.

Of the magnitude of Starres.

THe reason of this lifteth up mens minds into heaven: and as if they beheld and looked downe from thence, discover unto them, the magnitude of the three greatest parts of the whole world. For the Sunnes light could not wholly be taken away from the earth, by the Moone comming betweene, in case the earth were bigger than the Moone. But the huge greatnesse of the Sun is more certainely knowne, both by the shadow of the Earth, and the bodie of the Moone: so as it is needlesse to search and inquire into the largenesse thereof, either by proofe of eiesight, or by conjecture of the mind. How unmeasurable it is, appeareth evidently by this, That trees which are planted in limits from East to West, casteth shaddowes equall in proportion; albeit they be never so many miles asunder in length: as if the Sunne were in the middest of them all. This appeareth also about the time of the equinoctiall in all regions meridionall, when the sun shineth directly plumbe over mens heads, and causeth no shadow. In like manner, the shaddows of them that dwell Northerly under the Solstitiall circle in summer, falling all at noone-tide, Northward, but at sun rising, Westward, doing the same demonstration. Which possibly could not be, unlesse the sunne were farre greater than the earth. Moreover, in that, when he riseth, hee surpasseth in breadth the hill Ida, compassing the same at large both on the right hand and the left, and namely, being so farre distant as he is. The eclipse of the Moone doth shew also the bignesse of the Sun, by an infallible demonstration; like as himselfe eclipsed, declareth the littlenes of the earth. For whereas there be of shadows three formes and figures: and evident it is, that if the darke materiall bodie which casteth a shadow, bee equall in bignesse to the light, then the shaddow is fashioned like a columne or piller, and hath no point at the end: if it bee greater, it yeeldeth a shadow like a top directly standing upon the point, so as the nether part therof is narrowest, and then the shadow likewise is of infinite length: but if the said bodie bee lesse than the light, then is represented a pyramidall figure like an hey-cock, falling out sharpe pointed in the top; which manner of shadow appeareth in the Moones eclipse: it is plaine, manifest, and without all doubt, that the sunne is much bigger than the earth. The same verily is seene by the secret and covert proofes of Nature it selfe. For why in deviding the times of the yeere, departeth the Sunne from us in the winter? marry, even because by meanes of the nights length and coolenesse, he would refresh the earth, which otherwise no doubt he should have burnt up: for, it notwithstanding, he burneth it in some measure, so excessive is the greatnesse thereof.

Chap. XII.

The inventions of men as touching the observation of the heavens.

THe reason verily of both eclipses, the first Romane that published abroad and divulged, was *Sulpitius Gallus*, who afterwards was Consull, together with *M. Marcellus*: but at that time being a Colonell, the day before that king *Perseus* was vanquished by *Paulus*, he was brought forth by the Generall into open audience before the whole hoast, to fore-tell the eclipse which should happen the next morrow: whereby he delivered the armie from all pensiveneese and fear, which might have troubled them in the time of battaile, and within a while after hee compiled also a booke thereof. But among the Greekes, *Thales Milesius* was the first that found it out, who in the 48 Olympias, and the fourth yeere thereof, did prognosticate and foreshew the Sunnes eclipse that happened in the raigne of *Halyattes*, and in the 170 yeere after the foundation of the citie of Rome. After them, *Hipparchus* compiled his Ephemerides, containing the course and aspects of both these planets, for sixe hundred yeares ensuing: comprehending withall the moneths according to the calculation and reckonings of sundrie nations, the daies, the houres, the situation of places, the aspects, and latitudes of divers townes and countries; as the world will beare him witnesse: and that no lesse assuredly, than if he had been privie to Natures counsels. Great persons and excellent these were doubtlesse, who above the reach of all capacitie of mortall men, found out the reason of the course of so mightie starres and divine powers: and whereas the silie mind of men

was

A was before ſett and to ſeeke, fearing in theſe eclipſes of the ſtarres ſome great wrong & violence, or death of the planets, ſecured them in that behalfe: in which dreadfull feare ſtood *Steſichorus* and *Pindarus* the poets (notwithſtanding their loftie ſtile,) and namely at the eclipſe of the Sun, as may appeare by their poemes. As for the Moone, mortall men imagine that by Magicke ſorcerie, and charmes, ſhe is inchaunted, and therfore helpe her in ſuch a caſe when ſhe is eclipſed by diſſonant ringing of baſons. In this fearefull fit alſo of an eclipſe, *Nicias* the Generall of the Athenians (as a man ignorant of the courſe thereof) feared to ſet ſaile with his fleet out of the haven, and ſo greatly endaungered and diſtreſſed the ſtate of his countrie. Faire chieve yee then for your excellent wit, ô noble Spirits, interpretours of the heavens, capable of Natures workes, and the deviſers of that reaſon whereby ye have ſurmounted both God and man. For who
B is he, that ſeeing theſe things, and the paineful ordinarie travels (ſince that this tearme is now taken up) of the ſtarres; would not beare with his owne infirmitie, and excuſe this neceſſitie of being borne to die? Now, for this preſent I will breefely and ſummarily touch thoſe principall points which are confeſſed and agreed upon as touching the ſaid eclipſes, having lightly rendered a reaſon thereof in moſt needfull places: For neither ſuch prooving and arguing of theſe matters, belongeth properly to our purpoſed worke; neither is it leſſe wonder to bee able to yeeld the reaſons and cauſes of all things, than to be reſolute and conſtant in ſome.

Chap. XIII.

Of Eclipſes.

C

CErtaine it is, that all eclipſes in 222 moneths have their revolutions, and return to their former points: as alſo that the Sunnes eclipſe never happeneth but about the change of the Moone, namely, either in the laſt of the old, or firſt of the new, which they call the Conjunction: and that the Moone is never eclipſed but in the full, and alwaies ſomewhat preventeth the former eclipſe. Moreover, that every yeere both planets are eclipſed at certain daies and hours under the earth. Neither be theſe eclipſes in all places ſeene, when they are above the earth: by reaſon ſometimes of cloudie weather, but more often, for that the globe of the earth hindereth the ſight of the bending convexitie of the heaven. Within theſe two hundred yeares found out it
D was by the wittie calculation of *Hipparchus*, that the Moone ſometime was eclipſed twiſe in five moneths ſpace, and the ſunne likewiſe in ſeven. Alſo that the Sunne and Moone twice in thirtie daies were darkened above the earth: howbeit ſeene this was not equally in all quarters, but of divers men in divers places: and that which maketh mee to marvell moſt of all in this wonder, is this, that when agreed it is by all, that the Moone light is dimmed by the ſhaddow of the earth, one while this eclipſe happeneth in the Weſt, and another while in the Eaſt: as alſo, by what reaſon it happened, that ſeeing after the Sunne is up, that ſhaddow which dusketh the light of the Moone, muſt needs be under the earth: it fell out once, that the Moone was eclipſed in the Weſt, and both planets to be ſeen above the ground in our horiſon. For that in twelve daies both theſe lights were miſſing, and neither Sun nor Moone were ſeene: it chaunced in our time, when
E both the *Veſpaſians* (Emperors) were Conſuls, the father the third time, and the ſon the ſecond.

Chap. XIIII.

Of the Moones motion.

CLeare it is, that the Moone alwaies in her encreaſing, hath the tips of her hornes turned from the Sunne toward the Eaſt: but in the waine, contrariwiſe Weſtward. Alſo that ſhee ſhineth (the firſt day of her apparition) $\frac{1}{4}$ parts, and the 24 part of one houre, and ſo riſeth in proportion the ſecond day forward unto the full: and likewiſe decreaſeth in the ſame manner to the change. But alwaies ſhe is
F hidden in the chaunge within foureteene degrees of the Sunne. By which argument wee collect, That the magnitude of the other planets is greater than the Moones, for as much as they appeare otherwhiles when they be but ſeven degrees off. But the cauſe why they ſhew leſſe, is their altitude: like as the fixed ſtarres, which by reaſon of the Sunnes brightneſſe are not ſeene in the day time: whereas indeed they ſhine as well by day as night: and that is manifeſtly prooved by ſome

ſome eclipſes of the Sunne, and exceeding deepe pits, for ſo they are to bee ſeene by day light. G

Chap. XV.

Generall rules touching the motions and lights of other Planets.

THoſe three, which we ſay are above the Sunne, bee hidden when they goe their courſe together with him. They ariſe in the morning, and be called Orientall Matutine: and never depart farther than eleven degrees. But afterwards meeting with his raies and beames, they are covered: and in their triple aſpect retrograde, they make their morning ſtations 120 degrees off, which are called the firſt: and anon in a contrarie aſpect or oppoſition 180 degrees off, they a- H
riſe in the evening, and are Occidentall Veſpertin. In like ſort approching from another ſide within 120 degrees, they make their evening Stations, which alſo they call the ſecond, untill he overtake them within twelve degrees, and ſo hide them: and theſe are called the evening ſettings. As for *Mars*, as he is neerer to the Sunne, ſo feeleth he the ſunne beames by a quadrant aſpect, to wit, ninetie degrees: whereupon that motion tooke the name, called the firſt and ſecond Nonagenarie, from both riſings. The ſame planet keepeth this ſtationarie reſidence ſixe moneths in the ſignes: whereas otherwiſe of his owne nature, but two moneths. But the other planets in both ſtations or houſes continue not all out foure moneths apeece. Now the other two inferiour planets under the Sunne, goe downe and are hidden after the ſame manner in the evening Conjunction: and in as many degrees, they make their morning riſing: and from the fartheſt bounds of I
their diſtance, they follow after the Sunne: and after they have once overtaken him, they ſet againe in the morning) and ſo outgoe him. And anon keeping the ſame diſtance, in the evening they ariſe againe unto the ſame limits which wee named before, from whence they are retrograde, and returne to the Sunne, and by the evening ſetting, they be hidden. As for *Venus*, ſhe likewiſe maketh two ſtations according to the two manners of her apparance, morning and evening, when ſhe is in fartheſt bounds and utmoſt points of her Epicycle. But *Mercurie* keepeth his ſtations ſo ſmall a while, that they cannot be obſerved. This is the manner and order as well of the lights and appearances of the planets, as of their occultations and keeping cloſe intricate in their motion, and enfolded within many ſtraunge wonders. For chaunge they doe their magnitudes and colours: ſometime they approch into the North, the ſame againe goe backe toward K
the South, yea, and all on a ſuddaine, they appeare one while neerer to the earth, and another while to the heaven: wherein, if we ſhall deliver many points otherwiſe than former writers, yet confeſſe we doe, that for theſe matters we are beholden unto them, who firſt made demonſtration of ſeeking out the waies thereto: howbeit, let no man deſpaire, but that he may profit and go forward alwaies in farther knowledge from age to age. For, theſe ſtraunge motions fall out upon many cauſes. The firſt is, by reaſon of thoſe eccentrique circles or Epicycles in the Stars, which the Greekes call *Abſides*: for needs we muſt uſe in this Treatiſe the Greeke tearmes. Now every one of the planets have particular Auges or circles aforeſaid by themſelves, and theſe different from thoſe of the ſtarrie heaven: for that the earth from thoſe two points, which they call Poles, is the very centre of the heaven, as alſo of the Zodiake, ſituate overthwart betweene them. All L
which things are certainely knowne to be ſo, by the compaſſe, that never can lie. And therefore for every centure there ariſe their owne *Abſides*, whereupon it is, that they have diverſe circuits and different motions, becauſe neceſſarie it is, that the inward and inferiour *Abſides* ſhould bee ſhorter.

Chap. XVI.

Why the ſame Planets ſeeme ſometime higher, and ſometime lower.

THe higheſt *Abſides* therfore from the centre of the earth are of *Saturn*, in the ſigne M
Scorpio: of *Iupiter* in Virgo: of *Mars* in Leo: of the Sunne in Gemini: of *Venus* in Sagittarius: of *Mercurie* in Capricorne: and namely in the middle or fifteenth degree of the ſaid ſignes: and contrariwiſe the ſaid planets in the ſame degrees of the oppoſite ſignes are loweſt, and to the centre of the earth neereſt. So it commeth to paſſe, that they ſeeme to move more ſlowly, when they go their higheſt circuit: not, for

that

A that naturall motions doe either haſten or ſlacke, which bee certaine and ſeverall to every one: but becauſe the lines which are drawne from the top of the *Abſis*, muſt needs grow narrow and neere together about the centre, as the ſpokes in cart wheeles: and the ſame motion by reaſon of the neereneſſe of the centre, ſeemeth in one place greater, in another leſſe. The other cauſe of their ſublimities is, for that in other ſignes they have the *Abſides* elevated higheſt from the centre of their owne eccentrique circles. Thus *Saturne* is in the height of his Auge in the 20 degree of Libra, *Iupiter* in the 15 of Cancer, *Mars* in the 28 of Capricorne, the Sunne in the 29 of Aries, *Venus* in the 16 of Piſces, *Mercurie* in the 15 of Virgo, and the Moone in the 4 of Taurus. The third reaſon of their altitude or elevation, is not taken from their Auges or circles eccentrique, but underſtood by the meaſure and convexitie of heaven, for that theſe planets ſeeme to
B the eie as they riſe and fall, to mount up or ſettle downeward through the aire. Hereunto is knit and united another cauſe alſo, to wit, the Zodiakes obliquitie, & latitude of the planets, in regard of the eclipticke: For through it the ſtarres which we called wandering, doe move and take their courſe. Neither is there any place inhabited upon earth, but that which lieth under it. For all the reſt without the poles, are fruitleſſe, deſert, and ill favored. Only the planet *Venus* goeth beyond the circle of the Zodiake, two degrees: which is ſuppoſed to be the very efficient cauſe, that certaine living creatures are engendered and bred even in the deſert and inhabitable parts of the world. The Moone likewiſe raungeth throughout all the breadth of it, but never goeth out of it. Next after theſe the ſtarre of *Mercurie* hath the largeſt ſcope in the Zodiake, but yet ſo, as of 12 degrees (for that is the bredth thereof) he wandereth but eight, and thoſe not equally, but two in
C the middeſt, foure above, and two beneath. Then the Sunne in the midſt, goeth alwaies betweene the two extremities of the Zodiake: but in his declining courſe from South and North, he ſeemeth to wind bias after the manner of Dragons or Serpents, unequally. *Mars* in his latitude leaveth the eclipticke line foure halfe degrees, *Iupiter* two degrees and a halfe, *Saturne* no more but two, like as the Sunne. Thus you ſee the manner of the latitudes, as they deſcend Southward, or aſcend Northward. And upon this is the reaſon grounded alſo of the third opinion of them, who imagine that the planets doe ariſe and mount from the earth upward into heaven. For very many have thought, although vntruly, that they climbe in this manner. But to the end that they may be reproved and confuted, we muſt lay open an infinite and incomprehenſible ſubtiltie, and that which containeth all thoſe cauſes & reaſons aboveſaid. Firſt therfore this is agreed upon and re-
D ſolved, that theſe ſtars or planets in their evening ſetting, are neereſt to the earth, both in regard of latitude, & alſo of altitude: and then they be called Occidentall Veſpertine, *i.* when the Sun toward the evening, covereth them with his raies: alſo, when they be fartheſt from the earth, aswel in latitude as elevation, they be Oriental Matutine, & ariſe or appear in the morning before the Sun is up: as alſo that then they are Stationaries in their houſes, which be in the middle points of the latitudes, which they cal eclipticks. Likewiſe, confeſſed it is, that ſo long as the planets are neer to the earth, their motion ſeemeth to encreaſe & be quicke: but as they depart on high, to decreaſe and be ſlow. And this reaſon is approved & confirmed principally by the elevations and depreſſions of the Moone. As doubtleſſe it is alſo, and held for an infallible rule, that every planet being Orientall Matutine, riſeth every day higher than other. The ſuperior three above the Sun dimi-
E niſh even from their firſt ſtations unto the ſecond. Which being ſo, it will plainely appeare, that every planet Orientall Matutine, riſing before the Sun, beginneth to mount the latitude Septentrionall, & decline from the Ecliptick Northward: in ſuch ſort, that from the time that they begin to diſmarch, their motion increaſeth by little & little more ſparely. But in the firſt Stations, they are at the higheſt altitude & aſcent: for then and not before, the numbers begin to be withdrawn, & the planets to go backward, and be retrograde. Whereof a particular reaſon by it ſelfe may be given, in this manner: The Planets being ſmitten in that part whereof we ſpake, they are both inhibited by the triangular beames or Trine aſpect of the Sun, to hold on a ſtreight and direct courſe in the longitude of the heaven, and ſo be retrograde: & ſo are raiſed up aloft by the firie power of the ſaid Sun. This cannot preſently at the firſt be underſtood by our eieſight: where-
F upon they are ſuppoſed to ſtand, and hereof their Stations tooke the name. Then proceedeth forward the violence of the Sunne beames or aſpect, and the vapor thereof by repercuſſion, forceth them to be evidently retrograde, and goe backward. And much more is this perceived in their even riſing, when they be Orientall Veſpertine, when the Sunne is wholly againſt them, and when they be driven to the very top of their *Abſides*, and ſo not ſeene at all, becauſe they are at

the

the highest, and goe their least motion, which is so much the lesse, when as it happeneth in the G
highest signes of their Auges or *Absides*. From the even arising after the Sunne-setting, they descend toward the latitude meridionall, for now the motion lesse diminisheth, but yet encreaseth not before the second stations: for that they are forced to descend, by reason of the sun beames comming from the other side of their Epycicle: and the same force beareth them downeward againe to the earth, which by the former triangular aspect raised them aloft toward heaven. So much skilleth it whether the said beames came from beneath or above. The same happeneth much more in the even setting when they be hidden with the raies of the Sunne. This is the reason of the superiour planets above the Sunne: but the Theorique is more difficult of the rest, and hath by no man before us been delivered.

H

Chap. XVII.

Generall rules as touching the Planets.

FIrst and formost therefore let us set downe the cause why *Venus* starre never departeth from the Sunne more than 46 degrees, and *Mercurie* not above 23: and (being as they are diverse Planets) why oftentimes they retire backe unto the Sunne within that compasse. For to be resolved in this point, note wee must, that both of them have their *Absides* turned opposite to the rest, as being seated under the sun: and so much of their circles is underneath, as the forenamed were above: and therefore farther off they cannot bee, because the curvature and roundle of their *Absides* in that place, hath no I
greater longitude. Therefore both edges of their *Absides*, by a like proportion keepe an indifferent mean, & their course is limitted: but the short spaces of their longitudes, they recompence again with the wandering of their latitudes. But what is the reason that they reach not alwaies to 46 degrees, and to 23? yes ywis doe they: but this the Canonicall Astronomers have missed of in their Aphorismes. For it is apparent, that their *Absides* also or Auges doe moove, because they never overpasse the Sunne. And therefore when their edges from either side are perceived to fall upon the very point, then the planets also are supposed to reach unto their longest distances: but when their edges or the points of their Epycicles, be short so many degrees, the starres themselves are thought to returne more speedily in their retrogradation, than in their direct course forward, albeit the utmost extremitie which they both have, is ever the same. And from K
hence is the reason understood of the contrarie motions of these two planets. For the superiour planets move most swiftly in the even setting, but these most slowly. They, I say, be farthest from the earth, when they move slowest; and these, when they goe swiftest: for as in the former the neerenesse of the centre hasteneth them; so in these, the extremitie of the circle: they, from their morne rising begin to slake their celeritie; but these, to encrease it: they returne back from their morning Station to their evening mansion; but *Venus* contrariwise is retrograde from the Station Vespertine, to the Matutine. Howbeit, she from the morne rising beginneth to climbe the latitude Septentrionall: but to follow the altitude and the Sunne, from the morning station: as being most swift and at the highest in the morne setting. Moreover she beginneth to digresse in
latitude, and to diminish her motion from the morne rising: but, to be retrograde, and withall to L
digresse in altitude, from the evening station. Again the Planet *Mercurie*, being Oriental Matutin, beginneth both waies to climbe, that is, to mount higher day by day; but to digresse in latitude, being Orientall Vespertine: and when the Sunne hath overtaken him within the distance of fifteene degrees, he standeth still for foure daies unmoveable. Within a while he descendeth from his altitude daily, and goeth backe retrograde from the even setting, namely, when the Sunne hideth him with his raies, to the Moone rising, when hee appeareth before the Sunne is up. This starre onely, and the Moone, descend in as many daies as they ascend. But *Venus* ascendeth up to her station in fifteene daies and the vantage. Againe, *Saturne* and *Iupiter* are twice as long descending, and *Mars* foure times. See how great varietie is in their nature, but the reason
thereof is evident. For they which goe against the vapour and heat of the Sunne doe also hardly M
descend. Many secrets more of Nature, and lawes whereunto she is obedient, might bee shewed about these things. As for example: The planet of *Mars*, whose course of all others, can bee least observed, never maketh station but in quadrate aspect: as for *Iupiter*, in triangle aspect; and very seldome severed from the Sunne 60 degrees, which number maketh sixe angled formes of the heaven,

A heaven, that is to say, is the just sixt part of the heaven: neither doth *Iupiter* shew his rising in the same signe this yeer, as in the former, save only in two signes, *Cancer* and *Leo*. The planet of *Mercurie* seldome hath his even rising in *Pisces*, but very often in *Virgo*; and the morne rising in *Libra*. In like manner, the morne rising in *Aquarius*, but very seldome in *Leo*. Neither becommeth he retrograde in *Taurus* and *Gemini*: and in *Cancer*, not under the 25 degree. As for the Moone, she entreth not twise in Conjunction with the Sunne in any other signe, but in *Gemini*: and sometime hath no Conjunction at all, and that only in *Sagitarius*. As for the last and first of the Moone, to be seene in one and the selfesame day or night, happeneth in no other signe but in *Aries*, and few men have had the gift to see it. And hereupon came *Lynceus* to be so famous for his eiesight. Also, the Planets *Saturne* and *Mars* are hidden with the Sunne beames, and appeare
B not in the heaven at the most 170 daies: *Iupiter* 36, or at least tenne daies wanting: *Venus* 69, or when least, 52: *Mercurie* 13, or at least, 17.

Chap. XVIII.

What is the cause that the Planets alter their colours.

THe reason of the Planets altitudes is it that tempereth their colours, according as they be neerer or farther off from the earth. For they take the likenesse of the aire, into the coasts whereof they enter, in their ascent: and the circle or
C circumference of another planets motion, coloureth them as they approach either way, ascending or descending. The colder setteth a pale colour, the hotter a red, and the windie a fearefull and rough hue. Onely the points and conjunctions of the *Absides*, and the utmost circumferences, shew a darke blacke. Each planet hath a severall colour; *Saturne* is white, *Iupiter* cleere and bright, *Mars* fierie and red, *Venus* Orientall (or *Lucifer*) fair, Occidentall (or *Vesper*) shining, *Mercurie* sparkling his raies, the Moon pleasant, the Sunne when he riseth burning, afterwards glittering with his beames. Vpon these causes the sight is entangled, and discovereth even those starres also which are contained and fixed in the skie, more or lesse. For one while a number of them appeare thicke, about the halfe Moone, when in a cleare and calme night she gently beautifieth them: another while they are seene but
D here and there, insomuch as we may wonder, that they are fled upon the full Moone, which hideth them: or when the beames either of the Sunne or other abovesaid have dazzeled our sight. Yea, the very Moon her selfe hath a feeling, doubtlesse, of the Sunne beames, as they come upon her: for those raies that come sidelong, according to the convexitie of the heaven, give but a darke and dim light to the Moone, in comparison of them that fall directly with streight angles. And therefore in the quadrangle aspect of the Sunne, she appeareth divided in halfe: in the triangle, she is well neere environned, but her circle is halfe emptie and void: howbeit in the opposition she seemeth full. And againe, as she is in the waine, she representeth the same formes, decreasing by quarters as she increased: with like aspects, as the other three planets above the sun.

E

Chap. XIX.

The reason of the Sunnes motion, and the unequalitie of daies.

AS for the Sunne himselfe, a man may observe foure differences in his course: twice in the year making the night equal to the day, to wit, in the Spring, and Autumne: for then he falleth just upon the centre of the earth, namely, in the eight degree of *Aries* and *Libra*. Twise likewise exchanging the compasse of his race: to lengthen the day from the *Bruma* or midwinter, in the eight degree of *Capricorn*; and again to lengthen the night from the summer sunnesteed, being in as many degrees of *Cancer*. The cause of unequall daies, is the obliquitie of the Zodiake: whereas the one halfe just of the world, to wit, sixe signes of the Zodiake, is at all times above and under the earth. But those signs which
F mount upright in their rising, hold light a longer tract, and make the daies longer: wheras they which arise crooked and goe bias, passe away in shorter and swifter time.

G

Chap. XX.

Why lightnings are attributed to Iupiter.

MOſt men are ignorant of that ſecret, which by great attendance upon the heavens, deepe clearkes and principall men of learning have found out: namely, that they bee the fires of the three uppermoſt planets, which falling to the earth, carrie the name of lightnings, but thoſe eſpecially which are ſeated in the middeſt, to wit, about *Iupiter*, haply, becauſe participating the exceſſive cold and moiſture from the upper circle of *Saturn*, and the immoderate heat from *Mars* that is next under, by this meanes he diſchargeth the ſuperfluitie: and hereupon it is H commonly ſaid, That *Iupiter* ſhooteth and darteth lightenings. Therefore, like as out of a burning peece of wood a cole of fire flieth forth with a cracke, even ſo from a ſtarre is ſpit out as it were and voided forth this cœleſtial fire, carrying with it preſages of future things: ſo as the heaven ſheweth divine operations, even in theſe parcels and portions which are rejected and caſt away as ſuperfluous. And this moſt commonly happeneth when the aire is troubled, either becauſe the moiſture that is gathered, mooveth and ſtirreth forward that abundance to fall; or els for that it is diſquieted with the birth (as it were) proceeding from a great bellied ſtar, and therefore would be diſcharged of ſuch excrements.

I

Chap. XXI.

The diſtances of the Planets.

MAny have aſſaied to find out the diſtance and elevation of the Planets from the earth, and have ſet downe in writing, that the Sunne is diſtant from the Moon 18 degrees, even as much as the Moone from the earth. But *Pythagoras*, a man of a quicke ſpirit, hath collected, that there are 126000 furlongs from the earth to the Moone, and a duple diſtance from her to the Sunne, and ſo from thence to the twelve ſignes three times ſo much. Of which opinion was alſo our countrieman *Gallus Sulpitius*.

K

Chap. XXII.

Of the Planets muſicke and harmonie.

BVt *Pythagoras* otherwhiles uſing the tearmes of muſicke, calleth the ſpace betweene the earth and the Moone a Tonus, ſaying, that from her to *Mercurie* is halfe a tone: and from him to *Venus* in manner the ſame ſpace. But from her to the Sunne as much and halfe againe: but from the Sunne to *Mars* a Tonus, that is to ſay, as much as from the earth to the Moone. From him to *Iupiter* halfe a Tonus: likewiſe from him to *Saturne* halfe a Tonus: and ſo from thence to the Signifer Sphære or Zodiake ſo much, and halfe again. Thus are compoſed ſeven tunes, which harmonie they cal Diapaſon, that is to ſay, the Generalitie or whole ſtate of concent and accord, which is perfect muſicke. In which, *Saturne* moveth by the Dorick tune: *Mercurie* by Phthongus, *Iupiter* by the Phrygian, and the reſt likewiſe: a ſubtiltie more pleaſant ywis than needfull. L

Chap. XXIII.

The Geometrie or dimenſion of the world.

ASTadium or furlong maketh of our paſes 125, that is to ſay, 625 foot. *Poſidonius* ſaith, That from the earth it is no leſſe than fortie ſtadia to that height or altitude wherein thicke weather, winds and clouds, doe engender. Above which, the aire is pure, cleere, and light, without any troubled darkeneſſe. But from the cloudie and M muddie region to the Moone, is twentie hundred thouſand Stadia: from thence to the Sunne five thouſand. By meanes of which middle ſpace betweene, it commeth to paſſe, that ſo exceeding great as the Sunne is, he burneth not the earth. Many there be moreover, who have taught, that the clouds are elevated to the heigth of nine hundred ſtadia. Vnknowne theſe points

are,

A are,and such as men cannot wind themselves out of: but as well may they now be delivered to others,as they have been taught to us:in which notwithstanding,one infallible reason of a Geometricall collection which never lieth,cannot be rejected,if a man would search deep into these matters. Neither need a man to seeke a just measure hereof (for to desire that, were in manner a point of fond and foolish idlenesse,as if men had nothing els to doe) but onely to make an estimate, and resolve upon a guesse and conjecture thereof. For,wheras it is plaine and apparent by the course of the Sunne,that the circle through which he passeth, doth containe three hundred threescore, and almost sixe degrees: and alwaies the dimetrent line,or diameter,taketh a third part of the circumference,and little lesse than a seventh part of a third: it is plain,that deducting one halfe thereof (by reason that the earth,situate as a centre, commeth betweene)

B the sixt part well neere of this great circuit which he maketh about the earth(so farre as our mind doth comprehend)is the very heigth from the earth up to the Sunne; but the twelfth part to the Moone, because she runneth so much a shorter compasse than the Sunne:whereby it appeareth,that she is in the middest betweene the earth and the Sunne. A wonder it is to see how farre the presumpteous mind and heart of man will proceed,and namely being invited and drawne on by some little successe,as in the abovenamed matter. The reason whereof ministreth plenteous occasion of impudencie, for they who dared once to give a guesse at the space betweene the Sunne and the earth,are so bold to doe the like from thence to heaven. For presuming,that the Sunne is in the middest,they have at their fingers ends by and by the very measure also of the whole world. For looke how many seven parts the dimetrent hath,so many 22 parts or thereabout,hath the whole

C circle:as if they had gotten the just and certaine measure of the heaven by levell,and the plumb or perpendicular line. The Ægyptians according to the reckoning which *Petosiris* and *Necepsos* have invented,doe collect, That every degree in the circle of the Moone, which is the least (as hath been said)of all other, containeth 33 stadia, and somewhat more: in *Saturne* the greatest of all the rest,duple so much,and in the Sunne: which we said was the middest,the halfe of both measures. And this computation hath very great importance, for he that will reckon the distances betweene the circle of *Saturne* and the Zodiake, by this calculation shall multiplie an infinite number of Stadia.

Chap. XXIIII. *Of suddaine starres.*

D THere remaine yet some few points as touching the world: for in the very heaven there bee starres that suddainely arise and appeare,whereof be many kinds.

Chap. XXV.

Of Comets or blazing stars,and cœlestiall prodigies, their nature,situation, and diverse sorts.

THese blazing starres the Greekes call *Cometas*,our Romanes *Crinitas*: dreadfull to be seene,with bloudie haires,and all over rough and shagged in the top like the bush of haire upon the head. The same Greekes call those starres *Pogonias*, *Pogonias.*

E which from the nether part have a maine hanging downe,in fashion of a long beard. As for those named *Acontiæ*, they brandish and shake like a speare or dart,signifying great swiftnesse. *Acontias.* This was it,whereof *Tiberius Cæsar* the Emperour wrate an excellent Poeme in his fift Consulship,the last that ever was seene to this day. The same,if they be shorter and sharpe pointed in the top, they use to call *Xiphiæ*: and of all other *Xyphias.* palest they be, and glitter like a sword,but without any raies or beames: which, another kind of them,named *Disceus* (resembling a dish or coit,whereof it beareth the name, but in colour like *Disceus.* to amber) putteth forth here and there out of the brimmes and edges thereof. As for *Pitheus*, *Pitheus.* it is seene in forme of tunnes,environned within a smokie light,as if it were a concavitie. *Ceratias* resembleth an horne: and such a one appeared when the whole manhood of Greece fought *Ceratias.*

F the battaile of Salamis. *Lampadias* is like to burning torches: and *Hippeus* to horse maines,most *Lampadias.* swift in motion,and turning round. There is also a white Comet with silver haires, so bright and *Hippeus.* shining,that hardly a man can endure to looke upon it, and in mans shape it sheweth the verie image of a god. Moreover,there be blazing starres that become all shaggie, compassed round with hairie fringe,and a kind of maine. One heretofore appearing in the forme of a main,chan-

ged into a speare, namely in the hundred and eight Olympias, and the 398 yeere from the foundation of Rome. Noted it hath ben, that the shorteſt time of their appearance is a seven-night, and the longeſt eightie daies. Some of them move like the wandering planets: others are fixed fast, and stir not. All in manner are seene under the very North starre called *Charl le magnes* waine: some in no certaine part thereof, but especially in that white, which hath taken the name of the *Milke circle. *Aristotle* saith, That many are seene together: a thing that no man but hee hath found out, so farre as I can learne. Mary, boisterous winds, and much heat of weather, are foretokened by them. There are of them seene also in winter season, and about the Antarticke South pole: but in that place without any beames. A terrible one likewise was seene of the people in Æthyopia and Ægypt, which the king who raigned in that age, named *Typhon*. It resembled fire, and was plaited or twisted in maner of a wreath, grim and hideous to be looked on; and no more truly to be counted a starre, than some knot of fire. Sometimes it falleth out, that the Planets and other starres are bespread all over with haires. But a Comet lightly is never seene in the West part of the heaven.

A fearefull starre for the most part this Comet is, and not easily expiated: as it appeared by the late civile troubles when *Octavius* was Consull: as also a second time by the inteſtine warre of *Pompey* and *Cæsar*. And in our daies about the time that *Claudius Cæsar* was poysoned, and left the Empire to *Domitius Nero*, in the time of whose raigne and government, there was another in manner continually seene, and ever terrible. Men hold opinion, that it is materiall for presage to observe into what quarters it shooteth, or what starres power and influence it receiveth: also what similitudes it resembleth, and in what parts it shineth out and first ariseth. For if it be like unto flutes or hautboies, it portendeth somewhat to Musicians: if it appeare in the privie parts of any signes, let ruffians, whoremaisters, and such filthie persons take heed. It is respective to fine wits and learned men, if it put forth a triangular or foure square figure with even Angles, to any situations of the perpetuall fixed starres. And it is thought to presage, yea, and to sprinckle and put forth poyson, if it be seene in the head of the Dragon, either North or South.

Typhon.

In one onely place of the whole world, namely, in a temple at Rome, a Comet is worshipped and adored: even that, which by *Augustus Cæsar* himselfe of happie memorie, was judged very luckie and fortunate to him: who, when it began to appeare, gave attendance in person as overseer to those plaies and games which he made to *Venus Genetrix*, not long after the death of his father *Cæsar*, in the colledge by him instituted and erected. For, that joy of his he testified in these words, *In those very daies during the solemnitie of my Plaies, there was seene a blazing starr for seven daies together, in that region of the skie which is under the North starre* Septentriones. *It arose about the eleventh houre of the day, bright it was and cleere, and evidently seene in all lands. By that starre it was signified* (as *the common sort beleeved*) *that the soule of* (Iulius) Cæsar *was received among the divine powers of the immortall gods. In which regard, that marke or ensigne of a starre was set to the head of that Statue of* Iulius Cæsar, *which soone after we dedicated in the Forum Romanum.* These words published he abroad: but in a more inward joy to himselfe, hee interpreted and conceived thus of the thing, That this Comet was made for him, and that himselfe was in it borne. And verily, if we will confesse a truth, a healthfull, good and happie presage that was, to the whole world. Some there be who beleeve, that these be perpetuall starrs, and go their course round, but are not seene, unlesse they bee left by the Sunne. Others againe are of opinion, that they are engendred casually by some humor and the power of fire together, and therby do melt away and consume.

Chap. XXVI.

Hipparchus his opinion of the starres. Also historicall examples of Torches, Lampes, Beames, Fierie darts, opening of the Firmament, and other such impressions.

Hipparchus the foresaid Philosopher (a man never sufficiently praised, as who proved the affinitie of starres with men, and none more than he; affirming also, that our soules were parcell of heaven) found out and observed another new starre engendred in his time, and by the motion thereof on what day it first shone, he grew presently into a doubt, Whether it happened not very often that new starres should arise? and whether those starres also mooved not, which we imagine to be fast fixed? The same man went so farre, that he attempted (a thing even hard

A [illegible] to performe) to deliver unto posteritie the just number of starres. Hee brought the said starres within the compasse of rule and art, devising certaine instruments to take their severall places, and set out their magnitudes: that thereby it might be easily discerned, not only whether the old died, and new were borne, but also whether they moved, and which way they tooke their course? likewise, whether they encreased or decreased? Thus he left the inheritance of heaven unto all men, if any one haply could be found able to enter upon it as lawfull heire.

There be also certaine flaming torches shining out in the skie, howbeit, never seen but when they fall. Such a one was that, which at the time that *Germanicus Cæsar* exhibited a shew of sword-fencers at utterance, ran at nooneride in the sight of all the people. And two sorts there be of them. Namely, *Lampades*, which they call plaine torches; and the other *Bolides*, *i.* Launces, such *Lampades.*
B as the Mutinians saw in their calamitie, when their cittie was sacked. Herein they differ, for that *Bolides.*
those lampes or torches, make long traines, whiles the forepart onely is on a light fire. But *Bolis* burneth all over, and draweth a longer taile. There appeare and shine out after the same manner certaine beames, which the Greekes cal *Docus*. Like as, when the Lacedemonians being vanquished in sea fight, lost the Empire and dominion of Greece. The firmament also is seene to chinke *Docus.*
and open, and this they name *Chasma*. *Chasma.*

Chap. XXVII.

Of the strange colours of the Skie.

C THere appeareth in the Skie also a resemblance of bloud, and (than which nothing is more dread and feared of men) a fierie impression, falling from out of heaven to earth: like as it happened in the third yeere of the hundred and seven Olympias, at what time as king *Philip* made all Greece to shake with fire and sword. And these things verily, I suppose to come at certaine times by course of Nature, like as other things; and not, as the most part thinke, of sundrie causes, which the subtile wit and head of man is able to devise. They have indeed been forerunners of exceeding great miseries, but I suppose those calamities happened not because these impressions were, but these therefore were procreated to foretell the accidents that ensued afterD ward. Now, for that they fall out so seldome, the reason therefore of them is hidden and secret, and so not knowne, as the rising of planets aboveside, the eclipses, and many other things.

Chap. XXVIII. *Of the heaven flame.*

LIkewise there are seene starres together with the Sunne all day long: yea, and very often about the compasse of the Sunne, other flames, like unto garlands of corne eares: also circles of sundrie colours, such as those were when *Augustus Cæsar* in the prime of his youth entred the citie of Rome (after the decease of his father) to take upon him that great name and imperiall title of his.

Chap. XXIX. *Of cœlestiall crownes.*

E ALso the same garlands appeare about the Moone, and other goodly bright stars which are fixed in the firmament. Round about the Sunne there was seene an Arch, when *Lu. Opimius* and *Q. Fabius* were Consuls: as also a round circle, when *L. Porcius* and *M. Acilius* were Consuls.

Chap. XXX. *Of suddaine Circles.*

THere appeared a Circle of red colour, when *L. Iulius* and *P. Rutilius* were Consuls. Moreover, there are strange eclipses of the Sunne, continuing longer than ordinarie, as namely, when *Cæsar* Dictatour was murdered. Moreover, in the warres of *Antonie*, the Sunne continued almost a yeere long with a pale and wan colour.

F

Chap. XXXI. *Many Sunnes.*

OVer and besides, many Sunnes are seene at once, neither above nor beneath the bodie of the true Sunne indeed, but crosse wise and overthwart: never neere, nor directly against the earth, neither in the night season, but when the Sunne either riseth or setteth. Once

they are reported to have beene seene at noone day in Bosphorus, and continued from morne to even. Three Sunnes together our auncitors in old time have often beheld, as namely, when *Sp. Posthumius* with *Q. Mutius*, *T. Martius* with *M. Porcius*, *M. Antonius* with *P. Dolabella*, and *Mar. Lepidus* with *L. Plancus*, were Consuls. Yea, and we in our daies have seene the like, in the time of *Cl. Cæsar* of famous memorie, his Consulship, together with *Cornelius Orfitus* his Colleague. More than three we never to this day find to have been seene together.

Chap. XXXII. *Many Moones.*

THree Moones also appeared at once, and namely, when *Cn. Domitius* and *C. Fannius* were Consuls, which most men called Night-Sunnes.

Chap. XXXIII. *Day light in the night.*

OVt of the firmament by night, there was seene a light, when *C. Cælius* and *Cn. Papyrius* were Consuls, yea, and oftentimes besides, so as the night seemed as light as the day.

Chap. XXXIIII. *Burning shields or targuets.*

A Burning shield ran sparkling from the West to the East, at the Sunnes setting, when *L. Valerius* and *C. Marius* were Consuls.

Chap. XXXV. *A strange sight in the Skie.*

BY report there was once seene, and never but once, when *Cn. Octavius*, and *C. Scribonius* were Consuls, a sparkle to fall from a starre: and as it approched the earth, for to waxe greater, and after it came to the bigneſſe of the Moone, to shine out and give light, as in a cloudie and darke day: then, being retired again into the skie, it became (to mens thinking) a burning lampe. This, *Licinius Syllanus* the Proconsull saw, together with his whole traine.

Chap. XXXVI. *The running of starres too and fro in the Skie.*

SEene there bee also starres to shoot hither and thither, but never for nought and to no purpose: for, from the same quarter where they appeare, there rise terrible winds, and after them stormes and tempests both by sea and land.

Chap. XXXVII. *Of the starres called Castor and Pollux.*

IHave seene my selfe in the campe, from the souldiours sentinels in the night watch, the resemblance of lightening to sticke fast upon the speares and pikes set before the rampiar. They settle also upon the crosse saile-yards; and other parts of the ship, as men doe saile in the sea: making a kind of vocall sound, leaping too and fro, and shifting their places as birds doe which flie from bough to bough. Daungerous they be and unluckie, when they come one by one without a companion: and they drown those ships on which they light, and threaten shipwrack, yea, and they set them on fire if haply they fall upon the bottome of the Keele. But if they appeare two and two together, they bring comfort with them, and foretell a prosperous course in the voiage, as by whose comming, they say, that dreadfull, cursed, and threatening Meteor called Helena, is chased and driven away. And thereupon it is, that men assigne this mightie power to *Castor* and *Pollux*, and invocate them at sea, no lesse than gods. Mens heads also in the even-tide are seene many times to shine round about, and to be of a light fire, which presageth some great matter. Of all these things there is no certain reason to be given, but secret these be, hidden with the majestie of Nature, and reserved within her Cabinet.

Chap. XXXVIII. *Of the Aire.*

IT remaineth now (thus much and thus farre being spoken of the world it selfe, to wit, the starrie heaven and the planets) to speake of other memorable things observed in the Skie. For even that part also have our forefathers called *Cælum*, *i.* the Skie, which otherwise they name Aire: even all that portion of the whole, which seeming like a void and emptie place, yeeldeth this vitall spirit whereby all things do live. This region is seated beneath the Moone, and farre under that planet (as I observe it is, in manner by all men agreed upon.) And mingling together an infinite portion of the superiour cœlestiall nature or elementarie fire, with

A with an huge deale likewiſe of earthly vapours, it doth participate confuſedly of both. From hence proceed clouds, thunders, and thoſe terrible lightenings. From hence come haile, froſts, ſhoures of raine, ſtormes and whirlewinds: from hence ariſe the moſt calamities of mortall men, and the continual warre that Nature maketh with her owne ſelfe. For theſe groſſe exhalations as they mount upward to the heaven, are beaten backe and driven downeward by the violence of the ſtarres: and the ſame againe when they liſt, draw up to them thoſe matters, which of their owne accord aſcend not. For thus we ſee, that ſhoures of raine doe fall, foggie miſts and light clouds ariſe, rivers are dried up, haile ſtormes come downe amaine, the ſunne beames doe ſcorch and burne the ground, yea, and drive it every where to the middle centre: but the ſame againe unbroken, and not looſing their force, rebound backe and take up with them whatſoever
B they have drunke up and drawne. Vapours fall from aloft, and the ſame returne againe on high: winds blow forcibly, and come emptie, but backe they goe with a bootie, and carrie away every thing before them. So many living creatures take their wind and draw breath from above: but the ſame laboureth contrariwiſe, and the earth infuſeth into the aire a ſpirit and breath, as if it were cleane void and emptie. Thus whiles Nature goeth too and fro, as forced by ſome engine, by the ſwiftneſſe of the heaven, the fire of diſcord is kindled and groweth hot. Neither may ſhee abide by it, and ſtand to the fight, but being continually carried away, ſhe rolleth up and downe: and as about the earth ſhee ſpreadeth and pitcheth her tents, as it were, with an unmeaſurable globe of the heaven, ſo ever and anon of the clouds ſhe frameth another skie. And this is that region where the winds raigne. And therefore their kingdome principally is there to bee ſeene,
C where they execute their forces, and are the cauſe well neere of all other troubles in the aire. For thunderbolts and flaſhing lightenings moſt men attribute to their violence. Nay, more than that, therefore it is ſuppoſed that otherwhiles it raineth ſtones, becauſe they were taken up firſt by the wind: ſo as we may conclude, that they cauſe many like impreſſions in the aire. Wherfore many matters beſides, are to be treated of together.

Chap. XXXIX. Of ordinarie and ſet ſeaſons.

D IT is manifeſt, that of times and ſeaſons, as alſo of other things, ſome cauſes bee certaine; others, caſuall and by chaunce; or, ſuch as yet the reaſon thereof is unknowne. For who need to doubt, that Summers and Winters, and thoſe alternative ſeaſons which wee obſerve by yearely courſe, are occaſioned by the motion of the Planets. As therefore the Sunnes nature is underſtood by tempering and ordering the yeare: ſo the reſt of the ſtarres and planets alſo, have every one their proper and peculiar power, and the ſame effectuall to ſhew and performe their owne nature. Some are fruitfull to bring forth moiſture, that is turned into liquid raine: others to yeeld an humour either congealed into froſts, or gathered and thickened into ſnow, or els frozen and hardened into haile: ſome affourd winds: others warmth: ſome hote and ſcorching vapours: ſome, dewes: and others, cold. Neither yet ought theſe ſtarres to be eſteemed ſo little as they ſhew in ſight, ſeeing that none of them is leſſe than the Moone: as may appeare by the reaſon of their exceeding heigth. Well then, every one in their owne motion, exerciſe their ſeverall
E natures: which appeareth manifeſtly by *Saturne* eſpecially, who ſetteth open the gates for raine and ſhoures to paſſe. And not onely the ſeven wandering ſtarres bee of this power, but many of them alſo that are fixed in the firmament; ſo often as they bee either driven by the acceſſe and approch of thoſe Planets, or pricked and provoked by the caſting and influence of their beams: like as we find it happeneth in the ſeven ſtarres called *Suculæ*, which the Grecians of raine name *Hyades*, becauſe they ever bring foule weather. Howbeit ſome, of their owne nature, and at certaine ſet times doe cauſe raine; as the riſing of the Kids. As for *Arcturus*, he never lightly appeareth without ſome tempeſtuous and ſtormie haile.

Chap. XL. The power of the Dog ſtarre.

F WHo knoweth not, that when the Dog ſtarre ariſeth, the heat of the Sunne is fierie and burning? the effects of which ſtarre are felt exceeding much upon the earth. The ſeas at his riſing do rage and take on, the wines in ſellars are troubled, pooles alſo and ſtanding waters doe ſtirre and move. A wild beaſt there is in Ægypt, called *Orix*, which the Ægyptians ſay, doth ſtand full againſt the Dog ſtarre when it riſeth,

riseth, looking wistly upon it, and testifieth after a sort by sneesing, a kind of worship. As for dogs, G
no man doubteth verily, but all the time of the canicular daies they are most readie to run mad.

Chap. XLI.

That the starres have their severall influences in sundrie parts of the signes, and at divers times.

MOreover, the parts of certaine signes, have their peculiar force; as appeareth in the equinoctiall of Autumne, and in mid winter; at what time wee perceive, that the Sunne maketh tempests. And this is prooved, not onely by raines and stormes, but by many experiments in mens bodies, and accidents to plants in the countrey. For some men are strucken by the Planet, H
and blasted: others are troubled and diseased at certaine times ordinarily, in their bellie, sinews, head, and mind. The Olive tree, the Aspe or white Poplar, and Willows, turn or wryth their leaves about at Midsummer, when the Sun entreth Cancer. And contrariwise, in very Mid-winter, when he entreth Capricorn, the hearb Penyroial floureth fresh, even as it hangs within house drie and readie to wither. At which time all parchments and such like bladders or skins are so pent and stretched with spirit and wind, that they burst withall. A man might marvell hereat, who marketh not by daily experience, that one hearbe called *Heliotropium, regardeth and looketh toward the Sunne ever as he goeth, turning with him at all houres, notwithstanding he be shaddowed under a cloud. Now certaine it is, that the bodies of oysters, muskles, cockles, I
and all shell-fishes, grow by the power of the Moone, and thereby again diminish: yea, and some have found out by diligent search into Natures secrets, that the fibres or filaments in the livers of rats and mice, answere in number to the daies of the Moones age: also that the least creature of all others, the Pismire, feeleth the power of this Planet, and alwaies in the chaunge of the Moon ceaseth from worke. Certes, the more shame it is for man to be ignorant and unskilfull, especially seeing that hee must confesse, that some labouring beasts have certaine diseases in their eies, which with the Moone doe grow and decay. Howbeit the excessive greatnesse of the heaven and exceeding heigth therof, divided as it is into 72 signes, maketh for him, & serveth for his excuse. Now these signs are the resemblances of things or living creatures, into which the skilfull Astronomers have with good respect digested the firmament. For example sake, in the taile of Tau- K
rus there be seven, which they named in old time *Vergiliæ*; in the forehead other seven called *Sucula*: and *Böotes* who followeth after the waine, or great Beare *Septentriones*.

*Some take it for Rudsor Wert wort: others for Turn-sol, or the Marygold.

Chap. XLII.

The causes of raine, showers, winds, and clouds.

ICannot denie, but without these causes there arise raines and winds: for that certaine it is, how there is sent forth from the earth a mist sometimes moist, otherwhiles smokie, by reason of hote vapours and exhalations. Also, that clouds are engendred by vapours which are gone up on high, or els of the aire L
gathered into a waterie liquor: that they bee thicke, grosse, and of a bodily consistence, wee guesse and collect by no doubtfull argument, considering that they overshaddow the Sunne, which otherwise may be seene through the water, as they know well, that dive to any depth whatsoever.

Chap. XLIII.

Of Thunder and Lightening.

DEnie I would not therefore, but that the fierie impressions from stars above, may fall upon these clouds, such as wee oftentimes see to shoot in cleare and M
faire weather: by the forcible stroke whereof, good reason it is, that the aire should bee mightily shaken, seeing that arrowes and darts when they are discharged, sing and keepe a noise as they flie. But when they encounter a cloud, there ariseth a vapour with a dissonant sound (like as when a red hot yron maketh

A keth an hissing being thrust into water) and a smokie fume walmeth up with many turnings like waves. Hereupon stormes doe breed. And if this flatuositie or vapour doe struggle and wrestle within the cloud, from thence it commeth that thunderclaps be heard; but if it breake through still burning, then flieth out the thunderbolt: if it bee longer time a strugling, and cannot peirce through, then leames and flashes are seene. With these, the cloud is cloven; with the other, burst in sunder. Moreover, thunders are nothing els but the blows and thumps given by the fires beating hard upon the clouds: and therefore presently the fierie chinkes and rifts of those clouds do glitter and shine. Possible it is also, that the breath and wind elevated from the earth, being repelled backe, and kept downe by the starres, and so held in and restrained within a cloud, may thunder, whiles Nature choketh the rumbling sound, all the while it striveth and quarrelleth; but sendeth forth a cracke when it breaketh out, as wee see in a bladder puffed up with wind. Likewise it may be, that the same wind or spirit whatsoever, is set on fire by fretting and rubbing, as it violently passeth headlong downe. It may also be stricken by the conflict of two clouds, as if two stones hit one against another; and so the leames and flashes sparkle forth. So as all these accidents happen by chance medley, and be irregular. And hereupon come those brutish and vaine lightenings, such as have no naturall reason, but are occasioned by these impressions above-said. With these are mountaines and seas smitten: and of this kind bee all other blasts and bolts that doe no hurt to living creatures. As for those that come from above, and of ordinarie causes, yea, and from their proper starres, they alwaies presage and foretell future events. In like maner as touching the winds, or rather blasts, I would not denie but that they may proceed from a drie exhalation of the earth, void of all moisture: neither is it impossible, but that they doe arise out of waters, breathing and sending out an aire, which neither can thicken into a mist, nor gather into clouds: also they may be driven by the lugitation and impulsion of the Sunne, because the wind is conceived to bee nought els but the fluctuation and waving of the aire, and that by many meanes also. For some we see to rise out of rivers, firths, and seas, even when they be stil and calme: as also others out of the earth, which winds they name *Altani*. And those verily when they come backe againe from the sea, are called *Tropæi*: if they goe onward, *Apogæi*.

B C

Chap. XLIIII.

What is the reason of the resounding and doubling of the Ecchoe.

D

BVt the windings of hils, and their often turnings, their many tops, their crests and ridges also bending like an elbow or broken, and arched as it were into shoulders, together with the hollow noukes of vallies, do cut unequally the aire that reboundeth them fro: which is the cause of reciprocall voices called Ecchoes, answering one another in many places, when a man doth holla or houpe among them.

Chap. XLV.

Of winds againe.

E

NOw, there be certaine caves and holes which breed winds continually without end: like as that is one which we see in the edge of Dalmatia, with a wide mouth gaping, and leading to a deepe downefall: into which if you cast any matter of light weight, be the day never so calme otherwise, there ariseth presently a stormie tempest like a whirlepuffe. The places name is Senta. Moreover, in the province Cyrenaica there is reported to bee a rocke consecrated to the South-wind, which without prophanation may not be touched with mans hand; but if it be, presently the South wind doth arise and cast up heapes of sand. Also in many houses there bee hollow places devised and made by mans hand for receipt of wind, which being enclosed with shade and darkenesse, gather their blasts. Whereby we may see how all winds have one cause or other. But great difference there is betweene such blasts, and winds. As for these, they bee settled and ordinarie, continually blowing; which, not some small tracts & particular places, but whole lands doe feele; which are not light gales, nor stormie puffes, named *Aurææ* and *Procellæ*, but simply called Winds, by the Masculine name *Venti*: which whether they arise by the continuall motion of the Heaven, and the contrarie course of the Planets; or whether this wind bee that spirit of Nature that engendreth all things, wandering to and fro as it were in some wombe; or rather

F

the

the aire, beaten and driven by the unlike influences and raies of the straying starres or planets, G
and the multiplicitie of their beames: or whether all winds come from their owne starres, namely these planets neerer at hand; or rather fall from them that be fixed in the firmament. Plaine and evident it is, that guided they be by an ordinarie law of Nature, not altogether unknowne, although it be not yet throughly knowne.

Chap. XLVI.

The natures and observations of the Winds.

THe old Greeke writers, not so few as twentie, have set downe and recorded their observations of the Winds. I mervell so much the more, that the world being H
so at discord, and divided into kingdomes, that is to say, dismembred as it was; so many men have had care to seeke after these things, so intricate and hard to bee found out, and namely in time of warres and amid those places, where was no safe lodging nor abode, and especially when pirates and rovers, common enemies to mankind, held well neere all passages: I mervaile, I say, that at this day each man in his owne tract and countrey taketh more light and true knowledge of some things by their commentaries and bookes, who never set foot there, than they doe by the skill and information of home-borne inhabitants; whereas now in time of so blessed and joious peace, and under a prince who taketh such delight in the progresse of the State and of all good arts, no new thing is learned by farther inquisition, nay, nor so much as the inventions of old writers are throughly understood. I
And verily it cannot bee said, that greater rewards were in those daies given, considering that the bountie of fortune was dispersed, and put into many mens hands: and in truth most of these deepe clearkes and learned men, sought out these secrets for no other reward or regard, than to doe good unto posteritie. But now, mens manners are waxen old and decay; now, all good customes are in the waine: and notwithstanding that the fruit of learning bee as great as ever it was, and the recompence as liberall, yet men are become idle in this behalfe. The seas are open to all, an infinite multitude of Sailers have discovered all coasts whatsoever, they saile through and arrive familiarly at every shore: all for gaine and lucre, but none for knowledge and cunning. Their minds altogether blinded, and bent upon nothing but covetousnes, never consider that the same might with more safetie be performed by skill and K
learning. And therefore seeing there be so many thousand poore sailers that hazard themselves on the seas, I will treat of the Winds more curiously and exquisitly than perhaps beseemeth the present worke that is begun.

Chap. XLVII.

Many sorts of Winds.

MEn in old time observed foure Winds only, according to so many quarters of the world (and therefore *Homer* nameth no more:) a blockish reason this was, L
as soone after it was judged. The Age ensuing, added eight more; and they were on the other side in their conceit too subtile and concise. The Moderne sailers of late daies, found out a meane betweene both: and they put unto that short number of the first, foure winds and no more, which they tooke out of the later. Therefore every quarter of the heaven hath two winds apeece. From the equinoctiall sunne-rising bloweth the East wind *Subsolanus*: from the rising therof in Mid-winter, the south-east *Vulturnus*. The former of these twaine the Greekes call *Apeliotes*, and the later *Eurus*. From the mid day, riseth the South wind: and from the sunne-setting in mid-winter the Southwest, *Africus*. They also name these two, *Notus* and *Libs*. From the equinoctiall going downe of the Sunne, the West wind *Favonius* commeth: but from that in Summer season, the Northwest *Corus*: and by the same Greekes they are tearmed *Zephyrus* and *Argestes*. From the North-waine M
or pole Arctike, bloweth the North wind *Septentrio*: betweene which and the Sunne rising in Summer, is the Northeast wind *Aquilo*, named *Aparctias* and *Boreas* by the Greekes. A greater reckoning than this for number, is brought in by some, who have thrust in foure more between; namely, *Thracias* betweene the North and the Summer setting of the Sunne: in like manner

Cæcias

A *Cæcias* in the middest betweene the Northeast *Aquilo*, and that of the Sunne rising in the equinoctiall *Sub-solanus*. Also, after the Sunne rising in Summer, *Phœniceas* in the middest, between the Southeast and the South. Last of all, betweene the South and the Southwest, *Lybonotus*, just in the middest, compounded of them both, namely, betweene the Noone steed, and the Sunsetting in Winter. But here they could not lay a straw, and see to make an end. For others have set one more yet, called *Mese*, betweene the Northeast wind *Boreas*, and *Cæcias*: also *Euronotus*, betweene the South and the Southwest winds. Besides all these, there be some Winds appropriate and peculiar to every nation, which passe not beyond one certaine tract and region: as namely *Scyros* among the Athenians, declining a little from *Argestes*; a Wind unknowne to other parts of Greece. In some other place it is more aloft, and the same then is called *Olympias*, as com-
B ming from the high hill Olimpus. But the usuall and customable manner of speech, understandeth by all these names *Argestes* only. Some call *Cæcias*, by the name of *Hellespontias*: and give the same Winds in sundrie places divers names. In the province likewise of Narbone, the most notorious Wind is *Circius*, and for violence inferiour to none, driving directly before it very often, the current at Ostia into the Ligurian sea. The same wind is not onely unknown in al other climates of the heaven, but reacheth not so much as to Vienna, a citie in the same province. As great & boisterous a wind as he is otherwise, yet, a restraint he hath before he come thither, and is kept within few bounds by the opposition of a meane and small hill. *Fabianus* also avoucheth, that the South winds enter not so farre as into Ægypt. Whereby, the law of Nature sheweth it selfe plainely, that even Winds have their times and limits appointed.

C To proceed then, the Spring openeth the Sea for sailers: in the beginning whereof, the West Winds mitigate the winter weather, at what time as the Sun is in the 25 degree of Aquarius, and that is the sixt day before the Ides of Februarie. And this order holdeth in manner with all other winds, that I will set down one after another: so that in every leap yeer ye anticipate & reckon one day sooner, and then againe keepe the same rule throughout all the foure years following. Some call *Favonius* (which beginneth to blow about the seventh day before the Calends of March) by the name of *Chelidonius*, upon the sight of the first swallowes: but many name it *Orinthias*, comming the 7t day after the shortest day in Winter; by occasion of the comming of birds: which wind bloweth for nine daies. Opposite unto *Favonius* is the Wind which we called *Sub-solanus*. Vnto this Wind is attributed the rising of the *Vergiliæ* or seven stars, in as many degrees of Tau-
D rus, sixe daies before the Ides of May; which time is a southerly constitution: and to this Wind the North is contrarie. Moreover, in the hotest season of the Summer, the Dog-starre ariseth, at what time as the Sun entreth into the first degree of Leo, which commonly is the fifteenth day before the Calends of August. Before the rising of this Starre for eight daies space or thereabout, the Northeast winds are aloft, which the Greekes call *Prodromi*, forerunners. And two daies after it is risen, the same winds hold still more stiffely, and blow for the space of fortie daies, which they name *Etesiæ*. The Sunnes heat, redoubled by the hotnesse of that starre, is thought to be assuaged by them: and no winds are more constant, nor keepe their set times better than they. Next after them come the Southerne winds againe, which are usually up, untill the Starre *Arcturus* riseth, and that is nine daies before the Æquinoctiall in Autumne. With it entereth *Corus*,
E and thus *Corus* beginneth the Autumne. And to this *Vulturnus* is contrarie. After that equinoctiall, about foure and fortie daies, the *Vergiliæ* goe down, and begin Winter, which season usually falleth upon the third day before the Ides of November. This is the Winter Northeast wind, which is farre unlike to that in Summer, opposite and contrarie to *Africus*. Now, a seven-night before the Mid-winter day, and as much after, the sea is allaied and calme for the sitting and hatching of the birds Halciones, whereupon these daies tooke the name *Alcionis*: the time behind, plaieth the part of Winter. And yet these boisterous seasons full of tempests, shut not up the sea: for pyrates and rovers at the first forced men with present perill of death, to run headlong upon their death, and to hazard themselves in Winter seas; but now a daies covetousnesse causeth men to doe the like.
F

The coldest winds of all other, be those which we said to blow from the North pole, and together with them their neighbour, *Corus*. These winds doe both allay and still all others, and also scatter and drive away clouds. Moist winds are *Africus*, and especially the South wind of Italie, called *Auster*. Men report also, that *Cæcias* in Pontus gathereth and draweth to it selfe clouds. *Corus* and *Vulturnus*, are drie, but onely in the end when they give over. The Northeast and the North,

North, engender ſnow. The North wind alſo bringeth in haile, ſo doth *Corus*. The South wind is G
exceeding hote and troublous withall. *Vulturnus* and *Favonius* bee warme. They alſo bee drier than the Eaſt: and generally all winds from the North and Weſt, are drier than from the South and Eaſt. Of all winds the Northerne is moſt healthfull: the Southerne wind is noiſome, and the rather when it is drie; haply, becauſe that when it is moiſt, it is the colder. During the time that it bloweth, living creatures are thought to bee leſſe hungrie. The *Eteſiæ* give over ordinarily in the night, and ariſe at the third houre of the day. In Spaine and Aſia they blow from the Eaſt: but in Pontus, from the North: in other quarters, from the South. They blow alſo after the Mid-winter, when they be called *Orinthiæ*; but thoſe are more mild, and continue fewer daies. Two there be that change their nature together with their ſite and place: The South wind in Affricke bringeth faire weather, and the North wind there is cloudie. All winds keepe their courſe in order for H
the more part, or els when one ceaſeth, the contrarie beginneth. When ſome are laid, and the next to them doe ariſe, they goe about from the left hand to the right, according to the Sunne. Of their manner and order monthly, the prime or fourth day after the change of the Moone, doth moſt commonly determine. The ſame winds will ſerve to ſaile contrarie waies, by meanes of ſetting out the ſailes: ſo as many times in the night, ſhips in ſailing run one againſt another. The South wind raiſeth greater billowes and more ſurging waves than the North: for that the South wind ariſeth below from the bottome of the ſea; the other bluſtereth aloft, and troubleth the top of the water. And therefore after Southerne winds, earthquakes are moſt hurtfull. The South wind in the night time is more boiſterous, the Northerne wind in the day. The winds blowing from the Eaſt, hold and continue longer than thoſe from the Weſt. The Northren winds I
give over commonly with an odde number: which obſervation ſerveth to good uſe in many other parts of naturall things, and therefore the male winds are judged by the odde number. The Sun both raiſeth and alſo laieth the winds. At riſing and ſetting he cauſeth them to be aloft: at noone-tide, he repreſſeth and keepeth them under, in Summer time. And therefore at mid-day or mid-night commonly the winds are downe and lie ſtill, for both cold and heat if they be immoderate, doe ſpend and conſume them. Alſo raine doth lay the winds: and moſt commonly from thence they are looked for to blow, where clouds breake and open the skie to be ſeene. And verily *Eudoxus* is of opinion (if wee liſt to obſerve the leaſt revolutions) that after the end of every fourth yeere, not onely all winds, but other tempeſts and conſtitutions alſo of the weather, returne again to the ſame courſe as before. And alwaies the Luſtrum or computation of the five yeers, begin- K
neth at the leape year, when the Dog ſtar doth ariſe. And thus much concerning general winds.

Chap. XLVIII.

Of ſuddaine blaſts.

NOw will we ſpeake of ſuddaine blaſts: which being riſen (as hath beene ſaid before) by exhalations of the earth, and caſt downe againe; in the meane while appeare of many faſhions, encloſed within a thin courſe of clouds newly overcaſt. For ſuch as be unconſtant, wandering, and ruſhing in manner of land flouds (as ſome men were of opinion, as wee have ſhewed) bring forth thunder and lightening. But if they come with a greater force, L
ſway, and violence, and withal burſt and cleave a drie cloud aſunder al abroad, they breed a ſtorm, which of the Greekes is called *Ecnephias*: but if the cliſt or breach bee not great, ſo that the wind be conſtrained to turn round, to rol and whirle in his diſcent, without fire, that is to ſay lightning, it makes a whirlepuffe or ghuſt called *Typhon*, that is to ſay, the ſtorm *Ecnephias* afoteſaid, ſent out with a winding violence. This takes with it a peece broken out of a congealed cold cloud, turning winding, and rolling it round, and with that weight maketh the owne fall more heavie, and changeth from place to place with a vehement and ſuddaine whirling. The greateſt danger and miſcheefe that poore ſailers have at ſea, breaking not onely their croſſe ſaile-yards, but alſo writhing and burſting in peeces the very ſhips: and yet a ſmal matter is the remedie for it, namely, the caſting of vinegre out againſt it as it commeth, which is of nature moſt cold. The ſame ſtorme bea- M
ting upon a thing, is it ſelfe ſmitten backe againe with a violence, and ſnatcheth up whatſoever it meeteth in the way aloft into the skie, carrying it backe, and ſwallowing it up on high. But if it breake out from a greater hole of the ſaid cloud, by it ſo borne downe, and yet not altogether ſo broad, as the abovenamed ſtorme *Procella* doth, nor without a cracke; they call this boiſterous wind

A wind *Turbo*, casting downe and overthrowing all that is next it. The same, if it be more hote and catching a fire as it rageth, is named *Prester*; burning, and withall laying along, whatsoeuer it toucheth and encountreth.

Chap. xlix.

Other enormious kinds of Tempests.

NO *Typhon* commeth from the North, ne yet any *Ecnephias* with Snow, or while Snow lieth on the ground. This tempestuous wind, if when it brake the cloud burned light withall, hauing fire of the owne before, and catched it not afterward, it is verie lightning; and differeth from *Prester*, as the flame from a cole of fire. Againe, *Prester* spreadeth broad with a flash and blast; the other gathereth round with forcible violence. *Typhon* moreouer or *Vortex*, differeth from *Turben* in flying backe: and as much as a crash from a cracke. The storme *Procella* from them both, in breadth: and to speake more truly, rather scattereth than breaketh the cloud. There riseth also upon the Sea, a darke mist, resembling a monstrous beast; and this is euer a terrible cloud to the sailers. Another likewise called a Columne or Pillar, when the humour and water ingendred, is so thicke and stiffe congealed, that it standeth compact of it selfe. Of the same sort also is that cloud which draweth water to it, as it were into a long pipe.

Chap. l.

In what Lands lightnings fall not.

IN Winter and Summer seldome are there any lightnings, and that is long of contrarie causes: because in winter the aire is driuen close togither, and thickened with a deeper course of clouds: besides, all the exhalations breathing and rising out of the earth being starke, congealed, and frozen hard, doe extinguish cleane what fierie vapour soeuer otherwise they receiue: which is the reason that Scythia and other cold frozen quarters thereabout, are free from lightnings. And Ægypt likewise upon the contrarie cause, and exempt from lightnings; namely, exceeding heat: for the hote and drie exhalations of the earth, gather into very slender, thin, and weake clouds. But in the Spring, and Autumne, lightnings are more rife; because in both those seasons, the causes as well of Summer as Winter, are confused and corrupt. And this is the reason also, that lightnings are common in our Italie; for that the aire being more moueable and wauering, by reason of a kinder Winter and a cloudie Summer, is alwaies of the temperature of Spring or Autumne. In those parts also of Italie which lie off from the North, and encline to warmth, (as namely in the tract about Rome and Campania) it lighteneth in Winter and Summer alike, which happeneth in no other part thereof.

Chap. li.

Sundry sorts of Lightnings, and Wonders thereof.

VErie many kinds of Lightnings are set downe by Authours. Those that come drie, burne not at all, but onely dissipate and dispearse. They that come moist, burne not neither, but blast things, and make them looke duskish. Now a third kind there is, which they call Bright and Cleare, and that is of a most straunge and wonderfull nature; whereby tunnes and such like vessels are drawne drie, and their sides, hoopes, and heads, neuer toucht therewith or hurt, nor any other shewe and token thereof is left behind: Gold, copper, and siluer money is melted in the bagges, and yet the verie bagges no whit scortched, no nor the waxe of the seale hurt and defaced, or put out of order. *Martia* a noble Ladie of Rome being great with child, was strucke with lightning: the child shee went withall was killed within her, and shee without any harme at all lived still. Among the *Catiline* prodigies it is found upon record, that *M. Herennius* (a Counsellor and States-man of the incorporate towne Pompeianum) was in a faire and cleare day smitten with lightning.

Chap. lii. *Of obseruations as touching Lightning.*

THe auncient Tuscanes by their learning doe hold, that there be nine gods that send forth Lightnings, and those of eleven sorts: for *Iupiter* (say they) casteth three at once. The Romanes haue obserued two of them, and no more; attributing those in the day time to *Iupiter*: and them in the night, to *Summanus* or *Pluto*. And these verily be more rare, for the cause afore-named; namely, the coldnesse of the aire above. In Hetruria, they suppose that lightnings breake also out of the earth, which they call *Infera*, *i.* Infernall; and such be made in mid-winter. And these they take to be terrene and earthly, and of all most mischieuous and execrable: neither be those generall and vniuersall lightnings, nor proceeding from the starres, but from a verie neare and more troubled cause. And this is an euident argument for distinction, that all such as fall from the upper skie aboue, strike aslant and side-wise: but those which they call earthly, smite straight and directly. But the reason why these are thought to issue forth of the earth is this; because they fall from out of a matter nearer to the earth, for as much as they leaue no markes of a stroke behind: which are occasioned by force not from beneath, but comming full against. Such as haue searched more subtillie into these matters, are of opinion, that these lightnings come from the Planet *Saturne*, like as the burning lightning from *Mars*: And with such lightning was Volsinij (a most wealthie cittie of the Tuscanes) burnt full and whole to ashes. Moreouer, the Tuscanes call those lightnings Familiar, which presage the fortune of some race, and are significant during their whole life: and such are they that come first to any man, after he is newly entred into his owne patrimonie or familie. Howbeit, their judgement is, that these priuate lightnings are not of importance and fore-tokening aboue ten yeeres; unlesse they happen either upon the day of first marriage, or of wedding. As for publicke lightnings, they be not of force aboue 30 yeeres, except they chaunce at the very time that townes or colonies be erected and planted.

Chap. liii. *Of raising or calling out Lightnings by coniuration.*

IT appeareth vpon record in Chronicles, that by certaine sacrifices and prayers, Lightnings may be either compelled or easily entreated to fall upon the earth. There goeth a report of old in Hetruria, that such a lightning was procured by exorcisms and conjurations, when there entred into the cittie Volsinij (after all the territory about it was destroyed) a monster, which they named *Volta*. Also, that another was raised and conjured by *Porsenna* their King. Moreouer, *L. Piso* (a writer of good credit) reporteth in his first booke of Annales, that *Numa* before him practised the same feat many a time and often: and when *Tullus Hostilius* would haue imitated him and done the like (for that he obserued not all the ceremonies accordingly) was himselfe strucke and killed with lightning. And for this purpose, sacred groues we haue and altars, yea and certaine sacrifices due thereto. And among the *Iupiters* surnamed *Statores*, *Tonantes*, and *Feretrij*, we haue heard that one also was called *Elicius*. Sundry and diuers are mens opinions as touching this point, and euery man according to his owne liking and fansie of his mind. To beleeue that Nature may be forced and commaunded, is a very audacious and bold opinion: but it is as blockish on the other side and senseleſſe, to make her benefits of no power and effect; considering that in the interpretation of Lightning, men haue thus farre forth proceeded in skill and knowledge, as to foretell when they will come at a set and prescript day: and whether they will fordoe and frustrate the daungers pronounced, or rather open other destinies, which lie hidden: and an infinite sort of publicke and priuat experiments of both kinds are to be found. And therefore (since it hath so pleased Nature) let some men be resolved herein, and others doubtfull: some may allow thereof, and others condemne the same. As for us, we will not omit the rest which in these matters are worth remembrance.

Chap. liiii. *Generall rules of Lightning.*

THat the Lightning is seene before the thunderclap is heard, although they come indeed joyntly both togither, it is certainly knowne. And no marveile, for the eye is quicker to see light, than the eare to heare a sound. And yet Nature doth so order the number and measure,

A measure, that the stroke and the sound should accord together. But when there is a noise, it is a signe of the lightning proceeding of some naturall cause, and not sent by God: and yet evermore this is a breath or wind that commeth before the thunderbolt: and hereupon it is, that every thing is shaken and blasted ere it be smitten: neither is any man strucken, who either saw the lightning before, or heard the thunderclap. Those lightnings that are on the left hand, be supposed to be luckie and prosperous, for that the East is the left side of the world: but the comming therof is not so much regarded as the returne; whether the fire leape back after the stroke given; or whether after the deed done and fire spent, the spirit and blast aboveſaid, retire backe againe. In that respect the Tuscanes have devided the Heaven into 16 parts. The first, is from the North to the Sunnes rising in the Equinoctiall line: the second, to the Meridian line, or the
B South: the third, to the Sunne setting in the Equinoctiall: and the fourth, taketh up all the rest from the said West to the North starre. These quarters againe they have parted into 4 regions apeece: of which 8 from the Sun-rising, they called the Left; and as many againe from the contrarie part, the Right. Which considered, most dreadfull and terrible are those lightnings, which from the Sunne-setting reach into the North: and therefore it skilleth very much, from whence lightnings come, and whither they goe: the best thing observed in them is, when they returne into the Easterly parts. And therefore, when they come from that first and principall part of the skie, and have recourse againe into the same, it is holden for passing good hap: and such was the signe and token of victories given (by report) to *Sylla* the Dictatour. In all other parts of the element, they be lesse fortunate or fearfull. They that haue written of these matters, have delive-
C red in writing, that there be lightnings, which to utter abroad is held unlawfull; as also to giue eare unto them, if they be disclosed, unlesse they be declared either to parents, or to a friend and guest. How great the vanitie is of this observation, was at Rome, upon the blasting of *Iunoes* temple, found by *Scaurus* the Consull, who soone after was President of the Senat. It lightneth without thunder, more in the night than day time. Of all creatures that have life and breath, man onely it doth not alwaies kill; the rest, it dispatcheth presently. This priviledge and honour, wee see Nature hath given to him; whereas otherwise so many great beasts surpasse him in strength. All other creatures smitten with lightning, fall downe upon the contrarie side; man onely (unlesse he turne upon the parts stricken) dyeth not. Those that are smitten from above upon the head, slie downe and sinke directly. Hee that is strucken watching, is found dead with
D his eyes winking and close shut: but whosoever is smitten sleeping, is found open eyed. A man thus comming by his death, may not by law be burned: Religion hath taught, that hee ought to be enterred and buried in the earth. No living creature is set a fire by lightning, but it is breathlesse first. The wounds of them that be smitten with thunderbolts, are colder than all the bodie besides.

Chap. lv.

What things are not smitten with Lightning.

E IF all those things which growe out of the earth, Lightning blasteth not the Laurell tree; nor entreth at any time above five foot deepe into the ground: and therefore, men fearfull of lightning, suppose the deeper caves to be the surest and most safe: or els booths made of skinnes of sea-beasts, which they call Seales, or Sea calves; for of all creatures in the sea, this alone is not subject to the stroke of lightning: like as of all flying foules the Ægle, (which for this cause is imagined to be the armour-bearer of *Iupiter*, for this kind of weapon.) In Italie betweene Tarracina and the temple of *Feronia*, they gave over in time of warre, to make towres and forts; for not one of them escaped, but was overthrowne with lightning.

Chap. lvi.

F *Of straunge and prodigious raine, to wit, of Milke, Blood, Flesh, Iron, Vvooll, Tyles, and Brickes.*

BEsides these things above, in this lower region under Heaven, we find recorded in monuments, that it rained milke and blood, when *M. Acilius* and *C. Porcius* were Consuls. And many times els besides it rained flesh, as namely, whiles *L. Volumnius* and *Serv. Sul-*

pitius were Conſuls: and looke what of it the foules of the aire caught not up nor carried away, it never putrified. In like manner, it rained yron in the Lucanes countrey, the yeere before that *M. Craſſus* was ſlaine by the Parthians, and togither with him all the Lucanes his ſouldiers, of whome there were many in his armie. That which came downe in this raine, reſembled in ſome ſort Sponges: and the Wiſards and Soothſayers being ſought unto, gave warning to take heed of wounds from above. But in the yeere that *L. Paulus* and *C. Marcellus* were Conſuls, it rained wooll about the caſtle Cariſſa, neare to which a yeare after, *T. Annius Milo* was ſlaine. At the time that the ſame *Milo* pleaded his owne cauſe at the barre, there fell a raine of tyles and bricks, as it is to be ſeene in the records of that yeere.

G

Chap. lvii.

H

Of the ruſtling of Armour and ſound of Trumpets heard from Heaven.

IN the time of the Cimbrian warres, we have been told, that Armour was heard to ruſtle, and the Trumpet to ſound out of Heaven. And this happened very often both before and after thoſe warres. But in the third Conſulſhip of *Marius*, the Amerines and Tudertes ſaw men in armes in the skie, ruſhing and running one againſt another from the Eaſt and Weſt; and might behold thoſe of the Weſt diſcomfited. That the very firmament it ſelfe ſhould be of a light fire, it is no marvaile at all; for often times it hath been ſeene, when clouds have caught any greater deale of fire.

I

Chap. lviii.

Of Stones falling downe from the skie.

AMong the Greekes there is much talke of *Anaxagoras Clazomenius*, who by his learning and skill that he had in Aſtronomie, foretold in the ſecond yeere of the 78 Olympias, what time a ſtone ſhould fall from out of the Sunne: and the ſame happened accordingly in the day time, in a part of Thracia neere the river Aegos; which ſtone is ſhewed at this day as bigge as a waine load, carrying a burnt and aduſt colour: at what time as a comet or blazing ſtarre alſo burned in thoſe nights. Which if any man beleeve that it was fore-ſignified, muſt needs alſo confeſſe, that this divinitie or fore-telling of *Anaxagoras* was more miraculous and wonderfull than the thing it ſelfe: and then farewell the knowledge of Natures workes, and welcome confuſion of all, in caſe we ſhould beleeue that either the Sunne were a ſtone, or that ever any ſtone were in it. But, that ſtones fall often times downe, no man will make any doubt. In the publicke place of Exerciſe in Abydos, there is one at this day upon the ſame cauſe preſerved and kept for to be ſeene, and held in great reverence: It is but of a meane and ſmall quantitie, yet it is that which the ſelfeſame *Anaxagoras* (by report) fore-ſignified that it ſhould fall in the mids of the earth. There is one alſo at Caſſandria, which was in old time uſually called Potidæa, a colonie from thence deducted. I my ſelfe have ſeene another in the territorie of the Vocantians, which was brought thither but a little before.

K

L

Chap. lix.

Of the Rainebow.

THoſe which wee call Rainebowes, are ſeene often without any wonder at all, or betokening any great matter: for they portend not ſo much as rainy or faire daies, to truſt upon. But manifeſt it is, that the Sunne beames ſtriking upon an hollow cloud, when their edge is repelled, are beaten backe againſt the Sunne: and thus ariſeth varietie of colours by the mixture of clouds, aire, and fiery light together. Certes, they neuer are knowne but oppoſite to the Sunne; nor at any time otherwiſe than in forme of a Semicircle: ne yet in the night ſeaſon, although *Ariſtotle* ſaith there was a Rainbow ſeen by night: howbeit he confeſſeth, that it could not poſſibly be but at the full of the moone. Now they happen for the moſt part in winter, namely, from the Autumne Equinoctiall, as the daies decreaſe and waxe ſhorter. But as daies growe longer againe, that is to ſay, after the Spring Equinoctiall, they be not ſeen no more than about the ſummer Sunſtead, when daies are at longeſt. But in Bruma, that is to ſay, when they be ſhorteſt,

M

A reſt, they chaunce very often. The ſame appeare aloft, when the Sunne is low; and below, when he is aloft. Alſo, they be of narrower compaſſe, when the Sunne either riſeth or ſetteth, but their body ſpreadeth broad: and at noone narrower it is and ſmall, yet greater and wider in circumference. In Summer time they be not ſeene about noon-tide, but after the Autumne Equinoctiall, at all houres; and never more at once than twaine. The reſt of the ſame nature, I ſee few men doe make any doubt of.

Chap. lx.

Of Haile, Snow, Froſt, Miſt, and Dew.

B HAile is ingendred of Raine congealed into an Ice: and Snow of the ſame humor growne togither, but not ſo hard. As for Froſt, it is made of dewe frozen. In winter Snowes fall, and not Haile. It haileth oftner in the day time than in the night, yet haile ſooner melteth by farre than ſnow. Miſts be not ſeene neither in Summer, nor in the cold weather. Dewes ſhew not either in froſt, or in hote ſeaſons; neither when winds be up, but only after a calme and cleere night. Froſtes drie up wet and moiſture; for when the yce is thawed and melted, the like quantitie of water in proportion is not found.

Chap. lxi.

Of the ſhapes of Clouds.

C VNdry colours and diuers ſhapes are ſeene in clouds, according as the fire intermingled therein, is either more or leſſe.

Chap. lxii.

Of the properties of weather in divers places.

MOreover, many properties there be of the Weather, peculiar to certaine places: the nights in Africke, be dewie in winter. In Italie, about Locri and the lake Velinus, there is not a day but a Rainbow is ſeene. At Rhodes and Syracuſæ, the aire is never ſo dimme and cloudie, but one houre or other the Sunne ſhineth out. But ſuch things as theſe ſhall be re-
D lated more fitly in due place. Thus much of the Aire.

Chap. lxiii.

Of Earth and the nature thereof.

THe Earth followeth next: unto which alone of all parts of the world, for her ſingular benefites wee have given the reverent and worſhipfull name of Mother. For like as the Heaven is the (mother) of God, even ſo is ſhe of men. She it is that taketh us when we are comming into the world, nouriſheth us when we are newborn: and once being come abroad, ever ſuſtaineth & beareth us
E up: and at the laſt when we are rejected and forlorne of all the world beſides, ſhe embraceth us: then moſt of all other times, like a kind mother, ſhe covereth us all over in her boſome: by no merit more ſacred than by it, wherwith ſhe maketh us holy and ſacred; even bearing our tumbes, monuments, and titles, continuing our name, and extending our memorie, thereby to make recompence and weigh againſt the ſhortneſſe of our age: whoſe laſt power wee in our anger wiſh to be heavie unto our enemie, and yet ſhe is heavie to none, as if we were ignorant that ſhe alone is never angry with any man. Waters aſcend up, and turn into clouds, they congeale and harden into haile, ſwell they doe into waves and billowes, and downe they haſten headlong into brookes and land flouds. The aire is thickened with clouds, and rageth with winds and ſtormes. But ſhe is bountifull, mild, tender over us and indulgent, readie at all times to attend
F and wait upon the good of mortall men. See what ſhe breeds being forced! nay, what ſhee yeeldeth of her owne accord! what odoriferous ſmels, and pleaſant ſavours! what holeſome juices and liquours, what ſoft things to content our feeling, what lovely colours doth ſhee give to pleaſe our eie, how faithfully and juſtly doth ſhe repay with uſurie that which was lent and credited out unto her! Finally, what ſtore of all things doth ſhee feed and nouriſh for our ſake! Alas

poore wretch, peſtiferous and hurtfull creatures, when the vitall breath of the aire was too blame G
to give them life, ſhee could not otherwiſe chuſe but receive them, after they were ſowne in her;
and being once engendred and bred, keepe and maintaine them. But in that they prooved after-
wards bad and venomous, the fault was to bee laid upon the parents that engendred them, and
not to bee imputed unto her. For, ſhee entertaineth no more a venemous ſerpent after it hath
ſtung a man: nay, more than that, ſhee requireth puniſhment, for them that are ſlow and negli-
gent of themſelves to ſeeke it. Shee it is that bringeth forth medicinable hearbes, and evermore
is in travaile to be delivered of ſome thing or other, good for man. Over and beſides, it may bee
thought and beleeved, that for very pittie of us ſhe ordained and appointed ſome poiſons, that
when wee were wearie of our life, curſed famine (moſt adverſe and croſſe of all other to the me-
rits of the earth) ſhould not conſume and waſt us with languiſhing and pining conſumption, and H
ſo procure our death; that high and ſteepe rocks ſhould not daſh and cruſh our bodies in pee-
ces; nor the overthwart and prepoſterous puniſhment by the halter, wreath our neckes, and ſtop
that vitall breath, which we ſeeke to let out and be rid of: laſt of all, that we might not worke our
owne death in the deepe ſea, and being drowned, feed fiſhes, and be buried in their bellies, ne yet
the edge and point of the ſword cut and pierce our bodie, and ſo put us to dolorous paine. So
that it is no doubt, but in a pittifull regard and compaſſion of us, ſhe hath engendred that poy-
ſon, by one gentle draught whereof, going moſt eaſily downe, wee might forgoe our life, and die
without any hurt and skin broken of our bodie, yea, and diminiſh no one drop of bloud: with-
out greevous paine, I ſay, and like onely to them who be athirſt: that being in that manner dead,
neither foule of the aire, nor wild beaſt prey upon or touch our bodies, but that he ſhould be re- I
ſerved for the earth, who periſhed by himſelfe and for himſelfe: and, to confeſſe and ſay the troth,
the earth hath bred the remedie of all miſeries, howſoever we have made it a venome and poiſon
to our life. For after the like ſort we employ yron and ſteele, which wee cannot poſſibly bee with-
out. And yet we ſhould not doe well and juſtly to complaine, in caſe ſhe had brought it forth for
to doe hurt and miſcheefe. Now ſurely to this onely part of Nature and the world, wee are un-
thankfull, as though ſhee ſerved not mans turne for all dainties; not for contumelie and reproch
to bee miſuſed. Caſt ſhee is into the ſea, or els to let in peeres and frithes, eaten away with water.
With yron tooles, with wood, fire, ſtone, burdens of corn tormented ſhe is every houre: and all
this much more to content our pleaſures and wanton delights than to ſerve us with naturall food
and neceſſarie nouriſhment. And yet, theſe miſuages which ſhee abideth above, and in her out- K
ward skin, may ſeeme in ſome ſort tollerable. But wee, not ſatisfied therewith, peirce deeper and
enter into her very bowels, wee ſearch into the vaines of gold and ſilver, wee mine and dig for
copper and lead mettals. And for to ſeeke out gemmes and ſome little ſtones, we ſtrike pits deep
within the ground. Thus wee plucke the very heart-ſtrings out of her, and all to weare on our fin-
ger one gemme or pretious ſtone, to fulfill our pleaſure and deſire. How many hands are worne
with digging and delving, that one joint of our finger might ſhine againe. Surely, if there were
any devils or infernal ſpirits beneath, ere this time verily theſe mines (for to feed covetouſnes and
roiot) would have brought them up above ground. Marvaile we then, if ſhe hath brought forth
ſome things hurtfull and noiſome? But ſavage beaſts (I well thinke) ward and ſave her, they keep L
ſacrilegious hands from doing her injurie. Nay ywis it is nothing ſo. Dig wee not amongſt dra-
gons and ſerpents? and together with veines of gold, handle we not the roots of poiſoned and
venomous hearbes? Howbeit, this goddeſſe wee find the better appaied and leſſe diſcontented
for all this miſuſage, for that the end and iſſue of all this wealth, tendeth to wickedneſſe, to mur-
der and warres, and her whome wee drench with our bloud, wee cover alſo with unburied bones.
Which nevertheleſſe, as if ſhee did reproove and reproch us for this rage and furie of ours, ſhee
her ſelfe covereth in the end, and hideth cloſe even the wicked parts of mortall men. Among
other imputations of an unthankfull mind, I may well count this alſo, That wee bee ignorant of
her nature.

Chap. lxiiii. *Of the forme of the earth.* M

THe firſt and principall thing that offereth it ſelfe to bee conſidered, is her figure, in which
by a generall conſent we doe all agree. For ſurely wee ſpeake and ſay nothing more com-
monly, than the round ball of the earth; and confeſſe that it is a globe encloſed within
two poles. But yet the forme is not of a perfect and abſolute roundle, conſidering ſo great heigth
of

A of hils,& ſuch plains of downs:howbeit,if the compaſſe therof might be taken by lines,the ends of thoſe lines would meet juſt in circuit,and prove the figure of a juſt circle. And this the very conſideration of naturall reaſon doth force and convince,although there were not thoſe cauſes which we alleadged about the heaven.For in it the hollow bending convexitie boweth and beareth upon it ſelfe,and every way reſteth upon the centre thereof, which is that of the earth. But this,being ſolid and cloſe compact, ariſeth ſtill like as if it ſwelled, ſtretching and growing without forth. The heaven bendeth and inclineth toward the centre, but the earth goeth from the centre, whiles the world with continuall volubilitie and turning about it, driveth the huge and exceſſive globe thereof into the forme of a round ball.

B

Chap. lxv.

Of the Antipodes,whether there be any ſuch. Alſo of the roundneſſe of water.

MVch adoe there is here, and great debate betweene learned men; and contrariwiſe thoſe of the leaud and ignorant multitude: for they hold, that men are overſpread on all parts upon the earth, and ſtand one againſt another, foot to foot: alſo that the Zenith or point of the Heaven is even and alike unto all: and in what part ſoever men be, they go ſtill and tread after the ſame manner in the middes. But the common ſort, aske the queſtion and demaund, How it happeneth that they oppoſite juſt againſt us, fall not into Heaven? as if there were not a reaſon
C alſo readie, That the Antipodes againe ſhould marvaile why we fell not downe? Now there is reaſon that commeth betweene, carrying a probabilitie with it even to the multitude, were it never ſo blockiſh and unapt to learne; That in an uneven and unequall Globe of the Earth, with many aſcents and degrees, as if the figure thereof reſembled a Pine apple, yet nevertheleſſe it may be well enough inhabited all over in every place. But what good doth all this, when another wonder as great as it ariſeth? namely, That it ſelfe hangeth, and yet falleth not togither with us: as if the power of that Spirit eſpecially which is encloſed in the World, were doubted: or that any thing could fall, eſpecially when Nature is repugnant thereto, and affordeth no place whither to fall: for like as there is no ſeat of Fire, but in fire; of Water, but in water; of Aire and Spirit, but in aire; even ſo, there is no roome for Earth but in earth, ſeeing all the Elements be-
D ſides, are readie to put it backe from them. Howbeit, wonderfull it remaineth ſtill, How it ſhould become a Globe, conſidering ſo great flatneſſe of Plaines and Seas? Of which doubtfull opinion, *Dicearchus* (a right learned man as any other) is a favourer; who, to ſatisfie the curious endeavors of Kings and Princes, had a charge and commiſſion to levell and take meaſure of mountaines: of which he ſaid, that Pelion the higheſt, was a mile and a halfe high by the plumb rule; and collected thereby, that it was nothing at all to ſpeake of, in compariſon of the univerſall rotunditie of the whole. But ſurely in my conceit, this was but an uncerteine gueſſe of his, ſince that I am not ignorant, that certaine tops of the Alpes, for a long tract together, ariſe not under fiftie miles in heigth.

But this is it that troubleth the vulgar ſort moſt of all, if they ſhould be forced to beleeve, that
E the forme of water alſo, gathereth round in the top. And yet there is nothing in the whole world more evident to the ſight, for the drops every where not onely as they hang, appeare like little round bals, but alſo if they light upon duſt, or reſt upon the hairie downe of leaves, we marke to keepe a perfect and exquiſite roundneſſe. Alſo in cups that are filled brim full, the middle part in the top ſwell moſt. Which things, conſidering the thinneſſe of the humour, and the ſoftneſſe thereof ſetling flat upon it ſelfe, are ſooner found out by reaſon than the eie. Nay, this is a thing more wonderfull, that when cups are filled to the full, put never ſo little more liquor thereto, the overplus will run over all about: but contrariwiſe it falleth out, if you put in any ſolide weights, yea, and it were to the weight of twentie deniers or French crownes in a cup. Forſooth the rea-
F ſon is this, that things received within forth, lift up the liquour aloft to the top, but poured upon the tumour that beareth aloft above the edges, muſt needs glide off and run by. The ſame is the reaſon why the land cannot be ſeene by them that ſtand upon the hatches of the ſhip, but verie plainly at the ſame time from the top of the maſtes. Alſo as a ſhip goeth afarre off from the land, if any thing that ſhineth and giveth light bee faſtened to the top-gallant, it ſeemeth from the land ſide to goe downe and ſinke into the ſea by little and little, untill at laſt it bee hidden

cleane

cleane. Laſt of all, the very Ocean, which we confeſſe to bee the utmoſt and ſartheſt bound enviG
toning the whole globe, by what other figure els could it hold together and not fall downe, ſince there is no banke beyond it to keepe it in? And even this alſo commeth about to bee as great a wonder, how it commeth to paſſe, although the ſea grow to be round, that the utmoſt edge thereof falleth not downe? Againſt which, if that the ſeas were even, flat, and plaine, and of that forme as they ſeeme to be, the Greeke Philoſophers to their owne great joy and glorie doe conclude: & prove by Geometricall ſubtile demonſtration, that it cannot poſſibly be that the water ſhould fall. For ſeeing that waters run naturally from aloft to the lower parts, and that all men confeſſe, that this is their nature, and no man doubteth that the water of the ſea, came ever in any ſhore ſo farre as the devexitie would have ſuffered: doubtleſſe it appeareth, that the lower a thing is, the neerer it is to the centre; and that all the lines which from thence are ſent out to the next waters, H
are ſhorter than thoſe which from the firſt waters reach to the utmoſt extremity of the ſea. Hereupon the whole water, from every part thereof, bendeth to the centre, and therefore falleth not away, becauſe it inclineth naturally to the inner parts. And this we muſt beleeve, that Nature the workemaiſtris framed and ordained ſo, to the end that the earth, which being drie, could not by it ſelfe alone without ſome moiſture, keepe any conſiſtence; and the water likewiſe could not abide and ſtay, unleſſe the earth upheld it: in which regard they were mutually to embrace one another, and ſo be united, whiles the one opened all the creekes and noukes, and the other ran wholly into the other, by the meanes of ſecret veines within, without and above, like ligaments to claſp it, yea, & ſo break out at the upmoſt tops of the hils: whether being partly carried by a ſpirit, and partly expreſſed forth by the ponderoſitie of the earth, it mounteth as it were in pipes: and ſo far I
is it off from danger of falling away, that it leapeth up to the higheſt and loftieſt things that bee. By which reaſon it is evident alſo, why the ſeas ſwell not and grow, notwithſtanding ſo many rivers daily run into them.

Chap. lxvi.

How the water is united and knit to the earth.

THe earth therefore in his whole globe is in the middeſt thereof, hemmed in with the ſea, running round about it. And this needeth not to be ſought out by reaſon & argument, for it is knowne alreadie by good proofe and experience. K

Chap. lxvii.

Navigation upon the ſea and great rivers.

FRom Gades and *Herculeſ* pillars, the Weſt ſea is at this day navigable, and ſailed all over, even the whole compaſſe of Spaine and France. But the North Ocean was for the moſt part diſcovered, under the conduct of *Auguſtus Cæſar* of famous memorie, who with a fleet compaſſed all Germanie, and brought it about as farre as to the cape of the Cimbrians: and ſo from thence having kenned and viewed the vaſt & wide ſea, or els taken knowledge therof by report, he paſſed to the Scythian climate and thoſe cold coaſts, frozen & abounding with too much moiſture. For which cauſe there is no likelyhood, that in thoſe parts the ſeas are at an end, whereas there is ſuch exceſſive wet that all ſtands with water. And neer unto it from the Eaſt, out of the Indian ſea, that whole part under the ſame clime of the world which bendeth toward the Caſpian ſea, was ſailed throughout by the Macedonian armies, when *Seleucus* & *Antiochus* reigned, who would needs have it ſo, that *Seleucus* & *Antiochus* ſhould beare their names. About the Caſpian ſea alſo many coaſts and ſhores of the Ocean have been diſcovered, and by peecemeale, rather than all whole at once, the North of one ſide or other, hath beene ſailed or rowed over. But yet to put all out of conjecture, there is a great argument collected by the Meere Mæotis, whether it bee a gulfe and arme of that Ocean (as I perceive many have beleeved) or an overflowing of the ſame, and devided from it by a narrow peece of the conti- M
nent. In another ſide of Gades from the ſame, Weſt, a great part of the South or Meridian goulfe, round about Mauritania is at this day ſailed. And the greater part verily of it, like as of the Eaſt alſo, the victories of great *Alexander* viewed and compaſſed on everie ſide, even as farre as to the Arabian goulfe. Wherein, when *Caius Cæſar*, the ſonne of *Auguſtus*, warred

A warred in those parts, the markes and tokens, by report, were seen remaining after the Spaniards shipwracke. *Hanno* likewise, in the time that Carthage flourished in puissance, sailed round about from Gades to the utmost bounds and lands-end of Arabia, and set downe that navigation and voiage of his in writing: like as also *Himilco*, at the same time was sent out in a voiage to discover the utter coasts of Europe. Moreover, *Cornelius Nepos* writeth, that in his time one *Eudoxus* (a great sailer) at what time as hee fled from king *Lathyrus*, departed out of the Arabian gulfe, and held on his course as farre as Gades. Yea, and *Cælius Antipater* long before him, reporteth, That he saw the man who had sailed out of Spaine into Æthiopia for trafficke of merchandise. The same *Nepos* maketh report as touching the compassing about of the North, that unto *Q. Metellus Celer* (Colleague to *C. Afranius* in the Consulship, but at that time Proconsull in
B Gaule) certaine Indians were given by a king of the Suevians, who as they sailed out of India for trafficke, as merchants, were driven by tempest, and cast upon Germanie. Thus the seas flowing on every side about this globe of the earth, divided and cut into parcels, bereave us of a part of the world: so as neither from thence hether, nor from hence thither, there is a thorow faire and passage. The contemplation wherof, serving fit to discover and open the vanitie of men, seemeth to require and challenge of me, that I should project to the view of the eie, how great all this is whatsoever it bee, and wherein there is nothing sufficient to satisfie and content the severall appetite of each man.

Chap. lxviii.

C

What portion of the earth is habitable.

NOw first and formost me thinkes, men make this reckoning of the earth, as if it were the just halfe of the globe, and that no portion of it were cut off by the Ocean: which notwithstanding, clasping round about all the middest thereof, yeelding forth and receiving againe all other waters besides, and what exhalations soever that go out for clouds, and feeding withall the very starres, so many as they be, and of so great bignesse; what a mightie space thinke you, will it be thought to take up and inhabite, and how little can there be left for men to inhabite? Surely the possession of so vast and huge a deale, must needs bee exceeding great and infinite. What
D say you then to this, That of the earth which is left, the heaven hath taken away the more part? For whereas there bee of the heaven five parts, which they call Zones: all that lieth under the two utmost, to wit, on both sides about the poles, namely, this here which is called *Septentrio*, *i.* the North, and the other overagainst it, named the South, it is overcharged with extreme and rigorous cold, yea, and with perpetuall frost and yce. In both Zones, it is alwaies dim and darke, and by reason that the aspect of the more mild and pleasant planets is diverted cleane from thence, the light that is, sheweth little or nothing, & appeareth white, with the frost onely. Now, the middle of the earth, wheras the Sunne hath his way, and keepeth his course, scorched and burnt with flames, is even parched and fried againe, with the hote gleames thereof, being so neer. Those two onely on either side about it, namely, betweene this burnt Zone and the two frozen, are tempe-
E rate: and even those have not accesse and passage the one to the other, by reason of the burning heat of the said planet. Thus you see, that the heaven hath taken from the earth three parts: and what the Ocean hath plucked from it besides, no man knoweth. And even that one portion remaining unto us, I wot not whether it be not in greater danger also. For, the same Ocean entring (as we wil shew) into many armes and creekes, keepeth a roaring against the other gulfes and seas within the earth, & so neer commeth unto them, that the Arabian gulfe is not from the Ægyptian sea above 115 miles: the Caspian likewise from the Ponticke but 375. Yea, and the same floweth betweene, and entreth into so many armes, as that thereby it devideth Affricke, Europe, and Asia asunder. Now, what a quantitie of the land it taketh up, may be collected and reckoned at this
F day by the measure and proportion of so many rivers, and so great Meres. Adde thereto both lakes and pooles: and withall take from the earth the high mountaines, bearing up their heads aloft into the skie, so as hardly the eie can reach their heigths: the woods besides, and steep discents of the vallies, the wildernesses, and wast wilds left desert upon a thousand causes. These so many peeces of the earth, or rather as most have written, this little pricke of the world (for surely the earth is nothing els in comparison of the whole) is the onely matter of our glorie. This, I say,

is

is the very ſeat thereof: here wee ſeeke for honours and dignities, here wee exerciſe our rule and G
authoritie: here we covet wealth and richeſſe: here all mankind is ſet upon ſtirres and troubles:
here wee raiſe civile warres ſtill one after another: and with mutuall maſſacres and murders wee
make more roume in the earth. And to let paſſe the publick furious rages of nations abroad, this
is it, wherein we chaſe and drive out our neighbour borderers, and by ſtealth dig turfe from our
neighbours ſoile to put it unto our owne; and when a man hath extended his lands, and gotten
whole countries to himſelfe farre and neere, what a goodly deale of the earth enjoieth hee? and
ſay that hee ſet out his bounds to the full meaſure of his covetous deſire, what a great portion
thereof ſhall he hold when he is once dead, and his head laid.

Chap. lxix. H

That the earth is in the middeſt of the world.

THat the earth is in the middeſt of the whole world, it appeareth by manifeſt and undoubted reaſons: but moſt evidently, by the equall houres of the equinoctiall. For, unleſſe it were in the middeſt, the Aſtrolabe and inſtruments called *Dioptræ*, have proved, that nights and daies could not poſſibly bee found equall: and thoſe aboveſaid inſtruments above all other, confirm the ſame: ſeeing that in the equinoctiall by one and the ſame line both riſing and ſetting of the Sun are ſeene, but the Summer Sunne riſing, and the Winter ſetting, by their owne ſeverall lines. Which could by no meanes happen, but that the earth reſteth in the Centre. I

Chap. lxx.

Of the unequall riſing of the Starres: of the Eclipſe, both where and how it commeth.

NOw three Circles there be enfolded within the Zones afore named, which diſtinguiſh the inequalities of the daies: namely, the Summer Solſtitiall Tropicke, from the higheſt part of the Zodiacke in regard of us, toward the North clime. And againſt it, another called the Winter Tropicke, toward the other Southerne Pole: and in like manner the Equinoctiall, which goeth in the mids of the Zodiacke circle. The cauſe of the reſt, which we wonder K
at, is in the figure of the very earth, which together with the water, is by the ſame arguments knowne to be like a Globe: for ſo doubtleſſe it commeth to paſſe, that with us the ſtars about the North pole, never go down; and thoſe contrariwiſe of the Meridian, never riſe. And again, theſe here be not ſeen of them, by reaſon that the globe of the earth ſwelleth up in the mids between. Again, Trogloditine and Ægypt, confining next upon it, never ſee eie upon the North pole ſtars: neither hath Italie a ſight of Canopus, or that which they name *Berenices haire*. Likewiſe another, which under the Empire of *Auguſtus*, men ſurnamed *Cæſaris Thronon*: and yet they be ſtarres there, of ſpeciall marke. And ſo evidently bendeth the top of the earth in the riſing, that Canopus at Alexandria ſeemeth to the beholders, elevate above the earth almoſt one fourth part of a ſigne: but if a man looke from Rhodes, the ſame appeareth after a ſort, to touch the very Horizon: and in Pontus, where the elevation of the North pole is higheſt, not ſeene at all: yea, and this ſame Pole at Rhodes is hidden, but more in Alexandria. In Arabia, all hid it is at the firſt watch of the night in November; but at the ſecond, it ſheweth. In Meroe, at Mid-ſummer in the evening, it appeareth for a while: but ſome few daies before the riſing of Arcturus, ſeene it is with the very dawning of the day. Saylers by their voyages, find out and come to the knowledge of theſe ſtarres moſt of any other, by reaſon that ſome ſeas are oppoſite unto ſome ſtarres; but other lie flat and encline forward to other: for that alſo, thoſe pole ſtarres appeare ſodainly, and riſing out of the ſea, which lay hidden before under the winding compaſſe, as it were of a ball. For the heaven riſeth not aloft in this higher pole, as ſome men have given out: elſe ſhould theſe ſtars be ſeene in every place: but thoſe that unto the next Sailers are ſuppoſed to be higher, the M
rie ſame ſeeme to them afarre off drowned in the ſea. And like as this North pole ſeemeth to be aloft unto thoſe that are ſituate directly under it; ſo to them that be gone ſo farre as the other devexitie or fall of the earth, thoſe aboveſaid ſtars riſe up aloft there, whiles they decline downward which here were mounted on high. Which thing could not poſſibly fal out but in the figure

of

A of a ball. And hereupon it is, that the inhabitants of the East perceive not the ecclipses of Sunne and Moone in the evening, no more than those that dwell West, in the morning: but those that be at noone in the South, they see verie often. At what time as *Alexander* the Great wan that famous victorie at Arbela, the moone (by report) was eclipsed at the second houre of the night: but at the very same time in Sicilie, she arose. The eclipse of the Sunne, which chaunced before the Kalends of Maij, when as *Vipsanus* and *Fonteius* were Consuls, (and that was not many yeeres past) was seene in Campania betweene the 7 and 8 houres of the day: but *Corbulo* (a generall Commaunder then in Armenia) made report, that it was seene there betweene the tenth and eleventh houres of the same day: by reason that the compasse of the globe discovereth and hideth some things to some, and other to others. But, and if the earth were plaine and levell, all
B things should appeare at once to all men; for neither should one night be longer than another, ne yet should the day of 12 houres appeare even and equall to any, but to those that are seated in the mids of the earth, which now in all parts agree and accord together alike.

Chap. lxxi.

What is the reason of the day light upon earth.

AND hence it commeth, that it is neither night nor day at one time in all parts of the world; by reason that the opposition of the globe bringeth night, and the round compasse and circuit thereof, discovereth the day. This is knowne by many experiments.
C In Affricke and Spaine, there were raised by *Annibal*, high watch towres: and in Asia for the same feare of rovers and pyrats, the like helpe of beacons was erected. Wherein it was observed often times, that the fires giving warning afore-hand (which were set a burning at the sixt houre of the day) were descried by them that were farthest off in Asia, at the third houre of the night. *Philonides*, the courrier or Post of the same *Alexander* above-named, dispatched in nine houres of the day a 1200 stadia, even as farre as from Sicyone to Elis: and from thence againe (albeit he went down-hill all the way) he returned oftentimes, but not before the third hour of the night. The cause was, for that he had the Sunne with him in his first setting out to Elis; and in his returne backe to Sicyone, he went full against it, met with it, and ere he came home over-passed
D it, and left it in the West behind, going from him. Which is the reason also, that they who by day-light saile Westward in the shortest day of the yeere, rid more way than those who saile all the night long at the same time, for that the other doe accompanie the Sunne.

Chap. lxxii.

The Gnomonicke Art of the same matter: as also of the first Diall.

ALso the Instruments serving for the houres, as Quadrants and Dials, will not serve for all places: but in every 300 stadia, or 500 at the farthest, the shadowes that the Sunne casteth, doe chaunge: and therefore the shadow of the Style in the Dyall, which they
E call the *Gnomon*, in Ægypt, at noone-tide, in the Equinoctiall day, is little more in length than halfe the Gnomon. But in the cittie of Rome, the shadowe wanteth the ninth part of the Gnomon. In the towne Ancona, it is longer than it a 35 part. But in that part of Italie which is called Venice, at the same time and houre, the shadow and the Gnomon be all one.

Chap. lxxiii.

Where and when there be no shadowes at all.

IN like manner they say, that in the towne Syene (which is above Alexandria 50 stadia) at noone-tide in the middes of Summer there is no shadow at all: and for farther experiment therof, let a pit be sunke in the ground, and it will be light all over in every corner:
F whereby it appeareth, that the sunne then is just and directly over that place, as the very Zenith thereof. Which also at the same time happeneth in India, above the river Hypasis, as *Onesicratus* hath set downe in writing. Yea and it is for certaine knowne, that in Berenice, a citie of the Troglodites, and from thence 4820 stadia in the same country, at the towne of Ptolemais (which was built at the first upon the very banke of the Red-sea, for the pleasure of chasing and hunting

of

of Elephants) the selfesame is to be seene 45 daies before the Summer Sunstead, and as long G
after: and that for 90 daies space, all shadowes are cast into the South. Againe, in the Iland Meroe, which is the capitall place of the Æthiopian nation, and is inhabited 5000 stadia from Syene upon the river Nilus, twice in the yeere the shadowes are gone, and none at all seene: to wit, when the sunne is in the 18 degree of *Taurus*, and in the 14 of *Leo*. In the countrey of the Oretes within India, there is a mountaine named Maleus, neere unto which the shadowes in Summer are cast into the South, and in winter to the North. There, for 15 nights and no more, is the starre Charles-waine neere the pole to be seene. In the same India, at Patales (a most famous and frequented port) the Sunne ariseth on the right hand, and all shadowes fall to the South. Whiles *Alexander* made abode there, *Onesicritus* a captaine of his, wrote that it was observed there, That the North starre was seene the first part only of the night: also in what places of India there were no shadowes, there the North starre appeared not: and that those quarters were called * *Ascia*, neither kept they any reckoning of houres there. H

* i. Without shadow.

Chap. lxxiiii.

Where twise in the yeere, the shadowes goe contrarie waies.

BVt throughout all Trogliditine, *Cratosthenes* hath written, that the shadowes two times a yeere for 45 daies, fall contrary waies.

Chap. lxxv. I

Where the day is longest, and where shortest.

IT commeth thus to passe, that by the variable increment of the day-light, the longest day in Meroe doth comprehend 12 Equinoctiall houres, and eight parts of one houre above: but in Alexandria 14 houres, in Italie 15, in Britaine 17: where, in Summer time the nights being light and short, by infallible experience shew that which reason forceth to beleeve: namely, that at Midsummer time as the Sunne approcheth neere to the pole of the world, the places of the earth lying underneath, hath day continually for six moneths: and contrariwise night, when the Sunne is remote as farre as Bruma. The which, *Pythias* of Massiles hath written of Thule, an Iland distant Northward from Brittaine sixe daies sailing: yea, and some K
affirme the same of Mona, which is an Iland distant from Camalodunum, a towne of Brittaine, about two hundred miles.

Chap. lxxvi. *Of Dials and Quadrants.*

THis cunning of shadowes and skill named Gnonomice, *Anaximenes* the Milesian, the disciple of *Anaximander* abovenamed, invented: and he was the first also that shewed in Lacedæmon the Horologe or Diall, which they call Sciotericon.

Chap. lxxvii. *How the daies are observed.*

THe very day it selfe men have after diverse manners observed. The Babylonians count L
for day all the time betweene two sunne risings. The Athenians, betweene the settings. The Vmbrians from noone to noone. But all the common sort every where, from day-light untill it be darke. The Romane Priests, and those that have defined and set out a civile day, likewise the Ægyptians and *Hipparchus*, from midnight to midnight. That the spaces betweene lights, are greater or lesse betwixt Sunne risings, neer the Sunne-steeds, than the equinoctials, it appeareth by this, that the position of the Zodiake about the middle parts thereof, is more oblique and crooked, but toward the Sunne-steed more streight and direct.

Chap. lxxviii.

The reason of the varietie and difference of sundrie countries and nations. M

HEreunto we must annex and join such things as are linked to cœlestiall causes. For doubtlesse it is, that the Æthyopians by reason of the Sunnes vicinitie, are scorched and tanned with the heat thereof, like to them that be adust and burnt, having their beards and bush of haire curled. Also, that in the contrarie clime of the world to it, in the frozen and icie re-

gions

A gions, the people have white skins, haire growing long downeward, & yellow; but they be fierce & cruell by reason of the rigorous cold aire: howbeit, the one as wel as the other in this change and mutabilitie, are dull and grosse: and the very legs doe argue the temperature. For in the Æthyopians the juice or bloud is drawne upward again by the nature of heat: but among the nations Septentrionall, the same is driven to the inferiour parts, by reason of moisture apt to fall downeward. Here there breed noisome and hurtfull wild beasts: but there, bee engendred creatures of sundrie and divers shapes, especially foules and birds of many formes and figures. Tall they are of bodily stature, as well in one part as the other: in the hote regions, by occasion of the naturall motion of fire; in the other, for the nourishment by moisture. But in the middest of the earth, there is an holesome mixture from both sides: the whole tract is fertile and fruitfull for all B things, the habite of mens bodies of a meane and indifferent constitution. In the colour also there sheweth a great temperature. The fashions and manners of the people are civile and gentle, their sences cleare and lightsome, their wits pregnant and capable of all things within the compasse of Nature. They also beare soveraigne rule, and sway Empires and Monarchies, which those uttermost nations never had: yet true it is, that even they who are out of the temperate Zones, may not abide to bee subject nor accommodate themselves unto these: for such is their savage and brutish nature that it urgeth them to, living solitarie by themselves.

Chap. lxxix.

Of Earthquakes.

C

THe Babylonians were of this opinion, that earthquakes and gaping chinkes, and all other accidents of that nature, are occasioned by the power and influence of the Planets: but of those three onely, to which they attribute lightenings. And by this means, namely, as they keepe their course with the Sunne, or meet with him: and especially when this concurrence is about the quadratures of the heaven. And surely if it be true that is reported of *Anaximander* the Milesian naturall Philosopher, his prescience and foreknowledge of things, was excellent & worthie of immortalitie: who, as they say, fore-warned the Lacedæmonians to looke well unto their citie and dwelling houses, for that there was an earthquake toward: which fell out accordingly: when not onely their whole citie was shaken, overthrowne, and fell downe, but also a great part of D the mountaine Taygetus, which bare out like to the poupe of a ship, broken as it were from the rest, came downe too, and with the fall, covered all over the foresaid ruins. There is reported another shrewd guesse of *Pherecydes*, who was *Pythagoras* his maister, and the same likewise divine and propheticall: hee by drawing water out of a pit, both foresaw and also foretold an earthquake there. Which if they be true, how farre off, I pray you, may such men seeme to bee from God, even whiles they live here upon earth? But as for these things verily, I leave it free for every man to weigh and deeme of them according to their owne judgement: and for mine owne part I suppose that without all doubt the winds are the cause thereof. For never beginneth the earth to quake, but when the sea is still; and the weather so calme withall, that the birds in their flying cannot hover and hang in the aire, by reason that al the spirit and wind which should beare them E up, is withdrawne from them: ne yet at any time, but after the winds are laid, namely, when the blast is pent and hidden within the veines and hollow caves of the earth. Neither is this shaking in the earth any other thing, than is thunder in the cloud: nor the gaping chinke thereof ought els, but like the clift whereout the lightening breaketh, when the spirit enclosed within, struggleth and stirreth to goe forth at libertie.

Chap. lxxx.

Of the gaping chinkes of the earth.

F

AFter many and sundrie sorts the earth therefore is shaken, and thereupon ensue wondrous effects. In one place the walls of cities are laid along: in another they be swallowed up in a deepe and wide chawme: here are cast up mightie heapes of earth; there, are let out rivers of water; yea, and sometimes fire doth breath forth, and hote springs issue abroad: and in another place the course and channell of rivers is turned clean away, and forced backward. There goeth before and commeth with it a terrible noise: one while a rumbling more like the loowing

and bellowing of beaſts: otherwhile it reſembleth a mans voice, or els the clattering and ruſtling of armour and weapons, beating one upon another; according to the qualitie of the matter that catcheth and receiveth the noiſe, or the faſhion either of the hollow crankes within, or the cranie by which it paſſeth, whiles in a narrow way it taketh on with a more ſlender and whiſtling noiſe: and the ſame keepeth an hoarſe din in winding and crooked caves; rebounding again in hard paſſages; roaring in moiſt places; waving and floting in ſtanding waters; boiling and chafing againſt ſolide things. And therfore oftentimes a noiſe is heard without any earthquake: and never at any time ſhaketh it ſimply after one and the ſame manner, but trembleth and waggeth to and fro. As for the gaping chinke, ſometimes it remaineth wide open, and ſheweth what it hath ſwallowed up: otherwhiles it cloſeth up the mouth, and hideth all: and the earth is brought together ſo againe, as there remaine no markes and tokens to be ſeene: notwithſtanding many a time it hath devoured cities, and drawne into it a whole tract of ground and fields. Sea coaſts and maritime regions moſt of all other, feele earthquake: neither are the hillie countries without this calamitie. For, I my ſelfe have knowne for certaine, that the Alpes and Apenine have oftentimes trembled. In the Autumne alſo & Spring there happen more earthquakes than at other times, like as lightenings. And hereof it is, that Fraunce and Ægypt leaſt of all other, bee ſhaken: for that in Ægypt the continuall Summer, and in Fraunce the hard winter, is againſt it. In like maner earthquakes are more rife in the night than in day time. But the greateſt of all others uſe to be in the morning and evening. Toward day light there bee many: and if by day, it is uſually about noone. They fortune alſo to be when the Sunne and Moone are eclipſed, becauſe in thoſe times all tempeſts are aſleepe and laid to reſt. But eſpecially, when after much raine there followeth a great time of heat; or after heat, ſtore of raine. G H I

Chap. lxxxi.

Signes of earthquake comming.

SAilers alſo have a certaine fore-knowledge thereof, and gueſſe not doubtfully at it: namely, when the waves ſwell ſuddainely without any gake of wind, or when they in the ſhip are ſhocked with billowes ſhaking under them. And then are the things ſeene to quake which ſtand within the ſhips, as well as thoſe in houſes, and with a ruſtling noiſe give warning beforehand. The foules likewiſe of the aire ſit not quietly without feare. In the skie alſo there is a ſigne thereof: for when there will bee an earthquake, there goeth before, either in day time, or ſoone after the Sunne is gone downe, a thin ſtreake or line, as it were, of a cloud lying out in a great length. Moreover, the water in wels and pits is more thicke and troubled than ordinarie, and not without a ſtinking ſent. K

Chap. lxxxii.

Remedies or helpes againſt earthquakes toward.

BVt a remedie there is for the ſame, ſuch as vaults and holes in many places do yeeld: for they vent out and breath forth the wind that was conceived there before: a thing obſerved in certaine townes, which by reaſon they ſtand hollow, and have many ſinkes and vaults digged to rid and convey away their filth, are leſſe ſhaken. Yea, and in the ſame towns, thoſe parts which be pendant, are the ſafer: as is well ſeene in Naples, where that quarter thereof which is ſolide and not hollow, is ſubject to ſuch caſualties. And in houſes the arches are moſt ſafe, the angles alſo of walls, yea, and thoſe poſts which in ſhaking will jog to and fro every way. Moreover, walls made of bricke or earth, take leſſe harme when they be ſhaken in an earthquake. And a great difference there is in the very kind and manner of earthquakes, for the motion is after many ſorts. The ſafeſt is, when houſes as they rocke, keepe a trembling and warbling noiſe: alſo when the earth ſeemeth to ſwell up in riſing: and againe to ſettle downe and ſinke with an alternative motion. Harmeleſſe it is alſo, when houſes run on end together by a contrarie ſtroke, and butt or jur one againſt another: for the one moving doth withſtand the other. The bending downeward in maner of waving, and a certaine rolling like to ſurging billowes, is it that is ſo dangerous & doth all the miſcheefe: or when the whole motion beareth and forceth it ſelfe to one ſide. Theſe quakings and tremblings of the earth give over when the wind is once vented out: but if they continue ſtil, then they ceaſe not until fortie daies end: yea, and many times it is longer ere they ſtay: for as much as ſome of them have laſted for the ſpace of a yeere or two. L M

Chap.

A

Chap. lxxxiii.

Monstrous Earthquakes seene never but once.

THere happened once (which I found in the bookes of the Tuscanes learning) within the territorie of Modena, (whiles *L. Martius* and *Sex. Iulius* were Consuls) a great strange wonder of the Earth: for two hilles encountred together, charging as it were, and with violence assaulting one another, yea and retiring againe with a most mightie noise. It fell out in the day time: and betweene them there issued flaming fire and smoke mounting up into the skie: while a great number of Romane Gentlemen (from the high way Æmylia) and a multitude of servants, yea and passengers by, or wayfaring men, stood and beheld it. With this conflict and
B running of them together, all the villages upon them were dashed and broken in peeces: verie much cattell that was within, dyed therewith. And this happened the yeere before the warre of our associates: which I doubt, whether it were not more pernicious to the whole land of Italie, than the civile warres. It was no lesse monstrous a wonder that was knowne also in our age, in the very last yeere of *Nero* the Emperor (as we have shewed in his actes) when medowes and olive rowes (notwithstanding the great publicke port-way lay betweene) passed overthwart one into anothers place, in the Marrucine territorie, within the lands of *Vectius Marcellus* a Gentleman of Rome, Procurator under *Nero* in his affaires.

Chap. lxxxiiii.

C

Wonders of Earthquakes.

THere happen together with Earthquakes, deluges also and inundations of the sea, to wit, infused and entring into the earth with the same aire and wind, or else received into the hollow receptacle, as it setleth downe. The greatest Earthquake within the remembrance of man, was that which chaunced during the Empire of *Tiberius Cæsar*, when 12 cities of Asia were over-turned and laid flat in one night. But the Earthquakes came thickest and most together in the Punick warre, when within one yeere there were reported at Rome to have ben seven and fiftie. In which yeere verily, when the Carthaginians and Romans fought a battaile at Thrasymenus lake, neither of both armies tooke knowledge of a right great earthquake. Neither is
D this a simple evill thing, nor the daunger consisteth onely in the very Earthquake and no more; but that which it portendeth, is as bad or worse. Never abode the citie of Rome any earthquake, but it gave warning before-hand, of some straunge accident and unhappie event following.

Chap. lxxxv.

In what places the Seas have gone backe.

THe same cause is to be rendred of some new hill or peece of ground, not seene before, when as the said wind within the earth, able to huffe up the ground, was not of power sufficient to breake foorth and make issue. For there groweth firme land not onely by that which rivers bring in (as the Ilands Echinades, which were heaped and raised up by the river
E Achelous; and so by Nilus the greater part of Ægypt, into which, if we beleeue *Homer*, from the Iland Pharus, there was a cut by sea of a day and nights sailing:) but also by the retiring and going backe of the sea; as the same Poet hath written of the *Circeie*. The like (by report) happened both in the haven of Ambracia, for ten miles space; and also in that of the Athenians, for five miles, neere Pireæum: also at Ephesus, where sometime the sea beat upon the temple of *Diana*. And verily (if we give eare to *Herodotus*) it was all a sea from above Memphis to the Æthiopian hils: and likewise from the plaines of Arabia. It was sea also about Ilium, and the flat of Teuthrania; and all that levell whereas the river Mæander now runneth by goodly medowes.

Chap. lxxxvi.

F

The reason of Islands that newly appeare out of the sea.

THere be lands also that put forth after another manner, and all at once shew on a sodaine in some sea: as if Nature cryed quittance with her selfe, and made even, paying one for another; namely, by giving againe that in one place, which those chawmes and gaping gulfes tooke away in another.

Chap. lxxxvii.

What Ilands have sprung up, and at what times.

THose famous Ilands long since, to wit, Delos and Rhodes, are recorded to have growne out of the sea: and afterwards, others that were lesse, namely, Anaphe beyond Melos; and Nea, betweene Lemnus and Hellespont. Alone also, betweene Lebedus and Teos: Thera likewise, and Therasia, among the Cyclades; which shewed in the fourth yeere of the 135 Olympias. Moreover, among the same Ilands 130 yeeres after, Hiera, which is the same that Automate. And two furlongs from it, after 110 yeeres, Thia, even in our time, upon the 8 day before the Ides of Iuly, when *M. Iunius Syllanus* and *L. Balbus* were Consuls.

Chap. lxxxviii.

What Lands the Seas have broken in betweene.

EVen within our kenning and neare to Italie, betweene the Ilands Æoliæ; in like manner neare to Creta, there was one shewed it selfe with hote fountaines out of the sea, for a mile and a halfe: and another in the third yeere of the 143 Olympias, within the Tuscane gulfe, and this burned with a violent wind. Recorded it is also, that when a great multitude of fishes floted ebbe about it, those persons died presently that fed therof. So they say, that in the Campaine gulfe, the Pithecusæ Ilands appeared. And soone after, the hill Epopos in them (at what time as sodainly there burst forth a flaming fire out of it) was laid level with the plain champion. Within the same also there was a towne swallowed up by the sea: and in one earthquake there appeared a standing poole; but in another (by the fall and tumbling downe of certaine hils) there grewe the Iland Prochyta: For after this manner also Nature hath made Ilands. Thus, she disjoyned Sicilie from Italie, Cyprus from Syria, Eubœa from Bœotia, Atalante and Macris from Eubœa, Besbycus from Bithynia, Leucostia from the promontorie and cape of the Syrenes.

Chap. lxxxix.

What Ilands became to ioyne unto the Maine.

AGaine, shee hath taken Ilands from the Sea, and joyned them to the firme land; and namely, Antissa to Lesbos, Zephyria to Halicarnassus, Aëthusa to Myndus, Dromiscos and Perne to Miletus, and Narthecusa to the promontorie Parthenius. Hybanda, sometime an Iland of Ionia, is now distant from the sea 200 stadia. As for Syrie, Ephesus hath it now in the midland parts far from the sea. So Magnesia, neighbour to it, hath Derasitas and Sophonia. As for Epidaurus and Oricum, are no more Ilands at this day.

Chap. xc.

What Lands have been turned wholly into Sea.

NAture hath altogether taken away certaine Lands: and first and formost where as now the sea Atlanticum is, it was sometime the Continent for a mightie space of ground; if wee give credit to *Plato*. And soone after in our Mediteranean sea, all men may see at this day how much hath been drowned up, to wit, Acarnania by the inward gulfe of Ambracia; Achaia within that of Corinth; Europe and Asia within Propontis and Pontus. Over and besides, the sea hath broken through Leucas, Antirrhium, Hellespont, and the two Bosphori.

Chap. xci.

What Lands have swallowed up themselves.

AND now to passe over armes of the sea and lakes. The very earth hath devoured and buried her selfe: to wit, that most high hill Cybotus, with the town Curites; Sipylus in Magnesia: and in the same place before-time, the most noble citie called Tantalus: the territories of Galanis and Gamale in Phœnice, togither with the very cities. Phogium also, a passing high hill in Æthiopia, as if the very stronds and Continent were not to be trusted, but they also must worke hurt and mischiefe.

Chap.

A

Chap. xcii.

❧ *What Citties have been drowned with the Sea.*

THe ſea Pontus hath overwhelmed Pyrrha and Antyſſa about Mæotis, Elice, and Bura, in the gulfe of Corinth: whereof, the markes and tokens are to be ſeene in the deepe. Out of the Iland Cea, more than 30 miles of ground was loſt ſodainly at once, with many a man beſides. In Sicilie alſo the ſea came in, and had away halfe the citie Thindaris, and whatſoever Italy nourſeth, even all betweene it and Sicilie. The like it did in Bœotia and Eleuſina.

B

Chap. xciii.

❧ *Of the ſtrange wonders of the Land.*

FOr, let us ſpeake no more of Earthquakes, and whatſoever elſe of that kind; and namely, of the graves and Sepulchres of Citties, buried and extant to be ſeene. But diſcourſe we rather of the wonders, than the miſchieſes wrought by Nature in the earth. And ſurely the Storie of cœleſtiall things was not more hard to be uttered and declared: the wealth is ſuch of mettals and mines, in ſuch varietie, ſo rich, ſo fruitfull, riſing ſtill one under another for ſo many ages; notwithſtanding that daily there is ſo much waſted and conſumed throughout the world, with fires, ruines, ſhipwracks, warres, and fraudulent practiſes: yea and ſo much ſpent with ryot
C and ſuperfluous vanities, by ſo many men living, that it is infinite: yet ſee, how many ſorts of jemmes there be ſtill, ſo painted and ſet out with colours? In precious ſtones, what varietie of ſundrie colours? and how beſpotted are they! And among them, behold the whiteneſſe and bright hew of ſome one, excluding all elſe but only light. The vertue and power of medicinable fountaines: the continuall burning ſo many hundred yeeres together of fire iſſuing forth in ſo many places: the deadly dampes and exhalations in ſome places, either ſent out of pits when they were ſunke, or elſe from the very native ſeat and poſition of the ground; preſent death in one place to the birds and foules of the aire only (as at Soracte, in a quarter neere unto the citie:) in other, to all other living creatures, ſave onely man: yea, and ſometime to men alſo, as in the territories of Sinueſſa and Puteoli. Which dampe holes, breathing out a deadly aire, ſome
D call, *Charoneæ Scrobes, i. Charons* ditches. Likewiſe in the Hirpines land, that of Amſanctus, a cave neere unto the temple of *Nephites*, which as many as enter into, die preſently. After the like manner, at Hierapolis in Aſia there is another ſuch, hurting all that come to it but only the Prieſt of *Cybele*, the great mother of the Gods. In other places there be alſo caves and holes of a Propheticall power: by the exhalation of which, men are intoxicate, and as it were drunken, and ſo foretell things to come, as at Delphi, that moſt renowmed Oracle. In all which things, what other reaſon can any mortall man make, than the divine power of Nature diffuſed and ſpred through all, which breaketh forth at times in ſundry ſorts?

E

Chap. xciiii.

❧ *Of certaine Lands that evermore dõe quake.*

SOme parts of the earth there be, that ſhake and tremble under mens feet as they goe: and namely, in the territorie of the Gabians, not farre from Rome citie, there be almoſt two hundred acres of ground which tremble as horſemen ride over them: and likewiſe in the territorie of Reate.

Chap. xcv.

❧ *Of Iſlands ever floting and ſwimming.*

F

CErtaine Iſlands are alwaies waving and never ſtand ſtill, as in the countrey about Cæcubum, Reate abovenamed, Mutina, and Statonia. Alſo in the Lake Vadimonis, and neer the waters Cutyliæ, there is a ſhaddowie darke grove, which is never ſeene in one place a day and night together. Moreover, in Lydia, the Iſles Calanucæ, are not onely driven to and fro by winds, but alſo many be ſhoved and thruſt with long poles, which way a man will: a thing that ſa-

ved many a mans life in the warre against *Mithridates*. There be other little ones also in the river Nymphæus called Saltuares [or Dauncers,] because in any consort of Musicians singing, they stirre and move at the stroke of the feet, keeping time and measure. In the great Lake of Italie Tarquinienſis, two Islands carrie about with them groves and woods: one while they are in fashion three square, another while round, when they close one to the other by the drift of winds, but never foure square. G

Chap. xcvi.

In what lands it never raineth. Also many strange wonders and miracles of the earth, and other elements heaped together.

H

PAphos hath in it a famous temple of *Venus*: upon a certaine floore and altar whereof, it never raineth. Likewise in Nea, a towne of Troas, a man shall never see it raine about the image of *Minerva*. In the same also the beasts killed for sacrifice, if they be left there, never putrifie. Neere to Harpasa, a towne in Asia, there stands a rocke of stone of a strange and wonderous nature: lay one finger to it, and it will stirre, but thrust at it with your whole bodie, it will not move, but stiffely resist. Within the demie Island of the Tauri, and cittie Parasinum, there is a kind of earth that healeth all wounds. But about Assos in Troas, there growes a stone, wherewith all bodies are consumed, and thereupon Sarcophagus it is called. Two hils there be neere the river Indus: the nature of the one is to hold fast all manner of yron, and of the other, not to abide it: and therefore if a mans shoe soll be clouted with hob nailes, in the one of them a man cannot pluck I away his foot, and in the other hee can take no footing at all. Noted it is, that in Locri and Crotone there was never pestilence knowne, nor any trouble or daunger by earthquake. And in Lycia ever after an earthquake, it hath been faire weather for fortie daies. In the territorie of Arda, if corne be sowed, it never commeth up. At the altars Murtiæ in the Veientian field, likewise in Tusculum and the wood Cyminia, there be certaine places, wherein whatsoever is pitched into the ground, can never be plucked up againe. In the Crustumine countrey all the hey there growing, is hurtfull in the same place: but be it once without it, good and holsome it is.

Chap. xcvii.

K

What is the reason of the reciprocall ebbe and flow of the seas: and where it is that they keepe no order, and are without reason.

OF the nature of waters much hath beene said: but the sea-tide that it should flow and ebbe againe, is most mervellous of all other. The manner thereof verily is divers, but the cause is in the Sunne and Moone. Betweene two risings of the Moon, they flow twice, and twice goe backe, and alwaies in the space of foure and twentie houres. And first as hee riseth aloft together with the world, the tides swell, and anone againe, as it goeth from the heigth of the Meridian line, and enclineth Westward, they slake: againe, as she moveth from the West, under our horison, and approcheth to the point contrarie to the Meridian, they flow, and then they are received L backe into the sea untill she rise againe: and never keepeth the tide the same houre that it did the day before: for it waiteth and giveth attendance upon the Planet, which greedily draweth with it the seas, and evermore riseth to day in some other place than it did yesterday. Howbeit the tides keepe just the same times betweene, and hold alwaies fixe houres apeece: I meane not of every day and night or place indifferently, but onely the equinoctiall. For in regard of houres, the tides of the sea are unequall: for as much as by day and night the tides are more or lesse one time than another: in the equinoctiall onely they are even and alike in all places. A very great argument this is, full of light, to convince that grosse and blockish conceit of them who are of opinion, that the planets being under the earth, loose their power: and that their vertue beginneth when they are above onely. For they shew their effects as well under as above the earth, M as well as the earth which worketh in all parts. And plaine it is, that the Moone performeth her operations as wel under the earth, as when we see her visibly aloft: neither is her course any other beneath, than above our horizon. But yet the difference and alteration of the Moone is manifold, and first every seven daies: for whiles she is new, the tides be but small untill the first quarter:

for

A for as she groweth bigger, they flow more, but in the full they swell and boile most of all. From that time they begin againe to be more mild: and in the first daies of the wain unto the seventh, the tides are equall: and againe when she is devided on the other side, and but halfe Moon, they encrease greater. And in the Conjunction or the change, they are equall to the tides of the full. And evidently it appeareth, that when she is Northerly, and retired higher and farther from the earth, the tides are more gentle, than when shee is gone Southerly: for then shee worketh neerer hand, and putteth forth her full power. Every eight yeere also, and after the hundreth revolution of the Moone, the seas returne to the beginning of their motions, and to the like encrease and growth: by reason that she augmenteth all things by the yeerly course of the Sunne: for as much as in the two equinoctials they ever swel most, yet more in that of the Autumne, than the Spring:
B but nothing to speak of in Mid-winter, and lesse at Mid-summer. And yet these things fall not out just in these very points and instants of the times which I have named, but some few daies after: like as neither in the full nor in the change, but afterward: ne yet presently so soone as the heaven either sheweth us the Moone in her rising, or hideth her from us at her setting, or as shee declineth from us in the middle climate, but later almost by two equinoctiall houres. For as much as the effect of all influences and operations in the heaven reach not so soone unto the earth, as the eie sight pierceth up to the heaven: as it appeareth by lightnings, thunders, and thunderbolts. Moreover, all tides in the maine Ocean, overspread, cover and overflow much more within the land, than in other seas besides: either because the whole and universall element is more courageous than in a part: or for that the open greatnesse and largenesse thereof, feeleth more effectually the power of the planet, working forcibly as it doth farre and neere at libertie, than when the same is pent and restrained within those streights. Which is the cause that neither lakes nor little rivers ebbe and flow in like manner. *Pythias* of Massiles, writeth, That above Brittaine the tide floweth in height eightie cubites. But the more inward and Mediteranean narrow seas are shut up within the lands, as in an haven. Howbeit, in some places a more spacious libertie there is that yeeldeth to the power and commaund of the Moone: for wee have many examples and experiments of them that in a calme sea without wind and saile, by a straunge water onely, have tided from Italie to Vtica in three daies. But these tides and quicke motions of the sea, are found to be about the shores, more than in the deepe maine sea. For even so in our bodies the extream
D and utmost parts have a greater feeling of the beating of arteries, that is to say, the vitall spirits. Yet notwithstanding in many firthes and armes of the sea, by reason of the unlike risings of the planets in every coast, the tides are diverse, and disagreeing in time, but not in reason and cause, as namely in the Syrtes. And yet some there bee that have a peculiar nature by themselves, as the Firth Tauromenitanum, which ebbeth and floweth oftener than twice: and that other in Eubœa, called likewise Euripus, which hath seven tides to and fro in a day and a night. And the same tyde three dayes in a moneth standeth still, namely in the 7, 8, and 9 daies of the moones age. At Gades, the fountaine next unto the chappell of *Hercules*, is enclosed about like a well; the which at sometimes riseth and falleth as the Ocean doth: at others againe, it doth both, at contrarie seasons. In the same place there is another spring that keepeth order and
E time with the motions of the Ocean. On the banke of Betis there is a towne, the wells whereof as the tyde floweth, doe ebbe; and as it ebbeth, doe flow: in the mid times betweene, they stirre not. Of the same qualitie, there is one pit in the towne Hispalis; all the rest be as others are. And the sea Pontus evermore floweth and runneth out into Propontis, but the sea never retireth backe againe within Pontus.

Chap. xcviii.

Marvailes of the Sea.

ALl seas are purged and scoured in the full Moone; and some besides at certaine times. About Messala and Nylæ, there is voided upon the shoare, certaine dregges and filthinesse like to
F beasts dung: whereupon arose the fable, That the Sunnes oxen were there kept in stall. Hereunto addeth *Aristotle* (for I would not omit willingly any thing that I know) that no living creature dieth but in the refluxe and ebbe of the sea. This is observed much in the Ocean of Fraunce, but found onely in man by experience, true.

Chap.

G

Chap. xcix.

What power the Moone hath over things on Earth and in the Sea.

BY which it is truly gueſſed and collected, that not in vaine the planet of the moone is ſuppoſed to be a Spirit: for this is it that ſatisfieth the earth to her content: ſhee it is that in her approch and comming toward, filleth bodies full; and in her retire and going away, emptieth them againe. And hereupon it is, that with her growth, all ſhell-fiſh waxe and encreaſe: and thoſe creatures which have no blood, them moſt of all doe feele her ſpirit. Alſo, the blood in men doth encreaſe or diminiſh with her light more or leſſe: yea the leaves of trees and the graſſe for fodder (as ſhall be ſaid in convenient place) doe feele the influence of her, which evermore H the ſame, pierceth and entreth effectually into all things.

Chap. c.

The power of the Sunne, and why the ſea is ſalt.

THus by the fervent heat of the Sunne, all moiſture is dried up: for we have been taught, that this Planet is Maſculine, frying and ſucking up the humiditie of all things. Thus the broad and ſpatious ſea hath the taſte of ſalt ſodden into it: or els it is, becauſe when the ſweet and thin ſubſtance thereof is ſucked out from it, which the fiery power of the ſunne moſt eaſily draweth up, all the tarter and more groſſe parts thereof remaineth behind: and hereupon I it is, that the deepe water toward the botome, is ſweeter and leſſe brackiſh than that above in the top. And ſurely, this is a better and truer reaſon of that unpleaſant ſmacke and taſt that it hath, than that the ſea ſhould be a ſweat iſſuing out of the earth continually: or, becauſe over-much of the drie terrene element is mingled in it without any vapour: or elſe becauſe the nature of the earth infecteth the waters, as it were, with ſome ſtrong medicine. We find among rare examples and experiments, that there happened a prodigious token to *Denis* tyrant of Sicilie, when hee was expelled and depoſed from that mightie ſtate of his, and this it was; The ſea water within one day in the haven grew to be freſh and ſweet.

K

Chap. ci.

In like manner of the Moones nature.

ON the contrary, they ſay that the Moone is a planet Fœminine, tender and nightly, diſſolveth humors, draweth the ſame, but carrieth them not away. And this appeareth evidently by this proofe, that the carkaſſes of wild beaſts ſlaine, ſhe putrifieth by her influence, if ſhe ſhine upon them. When men alſo are ſound aſleepe, the dull nummednes thereby gathered, ſhe draweth up into the head: ſhee thaweth yce, and with a moiſtening breath proceeding from her, enlargeth and openeth all things. Thus you ſee how Natures turne is ſerved and ſupplyed, and is alwaies ſufficient; whiles ſome ſtarres thicken and knit the elements, others againe reſolve the ſame. But as the Sunne is fed by the ſalt ſeas, ſo the Moone is nouriſhed by the freſh L river waters.

Chap. cii.

Where the Sea is deepeſt.

FAbianus ſaith, that the Sea where it is deepeſt, exceedeth not fifteene furlongs. Others againe doe report, that in Pontus the ſea is of an unmeaſurable deapth, over-againſt the nation of the Coraxians, the place they call *Bathea Ponti*, whereof the botome could never be founded.

Chap. ciii.

M

The wonders of waters, Fountaines, and Rivers.

OF all wonders this paſſeth, that certaine freſh waters hard by the ſea, iſſue and ſpring forth as out of pipes: for the nature of the waters alſo ceaſeth not from ſtraunge and miraculous properties. Freſh waters run aloft the ſea, as being no doubt the lighter: and therefore

A fore the ſea water (which naturally is heavier) upholdeth and beareth up whatſoever is brought in. Yea and amongſt freſh waters, ſome there be that flote and glide over others. As for example, in the lake Fucinus, the river that runneth into it: in Larius, Addua; in Verbanus, Ticinus; in Benacus, Mincius; in Sevinus, Ollius; in Lemanus lake, the river Rhodanus. As for this river beyond the Alpes, and the former in Italie; for many a mile as they paſſe, carrie forth their owne waters from thence where they abode as ſtrangers, and none other; and the ſame no larger than they brought in with them. This is reported likewiſe of Orontes, a river in Syria, and of many others. Some rivers againe there be, which upon an hatred to the ſea, run even under the botom thereof; as Arethuſa, a fountaine in Syracuſa: wherein this is obſerved, that whatſoever is caſt into it, commeth up againe at the river Alpheus, which running through Olympia, falleth into
B the ſea ſhore of Peloponneſus. There go under the ground, and ſhew above the ground againe, Lycus in Aſia, Eraſinus in Argolica, Tygris in Meſopotamia. And at Athens, what things ſoever are drowned in the fountaine of Æſculapius, be caſt up againe in Phalericus. Alſo in the Atinate plaines, the river that is buried under the earth, twentie miles off appeareth againe. So doth Timavus in the territorie of Aquileia. In Aſphaltites (a lake in Iurie which engendreth *Bitumen*) nothing will ſinke nor can be drowned, no more than in Arethuſa in the greater Armenia: and the ſame verily, notwithſtanding it be full of Nitre, breedeth and feedeth fiſh. In the Salentines countrey, neere the towne Manduria, there is a lake brim full: lade out of it as much water as you will, it decreaſeth not; ne yet augmenteth, poure in never ſo much to it. In a river of the Ciconians, and in the lake Velinus in the Picene territorie, if wood be throwne in, it is cove-
C red over with a ſtonie barke. Alſo in Surius, a river of Colchis, the like is to be ſeene: inſomuch, as ye ſhall have very often the barke that overgroweth it, as hard as any ſtone. Likewiſe in the river Silarus beyond Surrentum, not twigs onely that are dipped therein, but leaves alſo grow to be ſtones; and yet the water thereof otherwiſe is good and holeſome to be drunke. In the verie paſſage and iſſue of Reatine meere, there groweth a rocke of ſtone bigger and bigger by the daſhing of the water. Moreover, in the red ſea there be olive trees and other ſhrubs, that grow up greene. There be alſo very many ſprings, which have a wonderfull nature, for their boiling heat: yea, and that upon the very mountaines of the Alpes; and in the ſea betweene Italie and Ænaria: as in the Firth Baianus, and the river Liris, and many others. For in divers and ſundrie places yee may draw freſh water out of the ſea, namely about the ylands Chelidoniæ and Aradus:
D yea and in the Ocean about Gades. In the hot waters of the Padovans, there grow green herbs: in thoſe of the Piſanes, there breed frogs: and at Vetulonij in Hetruria, not farre from the ſea, fiſhes alſo are bred. In the territorie Caſinas, there is a river called Scatebra, which is cold, and in Summer time more abounding and fuller of water than in winter: in it, as alſo in Stymphalis of Arcadia, there breed and come foorth of it little water-myce, or ſmall Limpins. In Dodone, the fountaine of *Iupiter* being exceeding chill and cold, ſo as it quencheth and putteth out light torches dipped therein, yet if you hold the ſame neere unto it when they are extinct and put out, it ſetteth them on fire againe. The ſame ſpring at noontide, evermore giveth over to boile and wanteth water, for which cauſe they call it *Anapavomenos*: anon it beginneth to riſe untill it be midnight, and then it hath great abundance: and from that time againe it fainteth by little
E and little. In Illyricum there is a cold Spring, over which, if yee ſpread any clothes, they catch a fire and burne. The fountaine of *Iupiter Hammon* in the day time is cold, all night it is ſeething hote. In the Troglodites countrey there is a fountaine of the Sunne, called the Sweet Spring, about noone it is exceeding cold, anon by little and little it groweth to be warm, but at midnight it paſſeth and is offenſive for heat and bitterneſſe. The head of the Po, at noone in Summer, giveth over, as it were, and intermitteth to boile, and is then ever drie. In the Iſland Tenedus there is a ſpring, which after the Summer Sunneſteed, evermore from the third houre of the night unto the ſixt, doth overflow. And in the iſle Delos, the fountaine Inopus, falleth and riſeth after the
F ſame ſort that Nilus doth, and together with it. Over againſt the river Timavus, there is a little Iſland within the ſea, having hotewels, which ebbe and flow as the tide of the ſea doth, and juſt therewith. In the territorie of the Pitinates beyond Apenninus, the river Novanus at every midſummer time ſwelleth and runneth over the bankes, but in mid-winter is cleane drie. In the Faliſcane countrey, the water of the river Clitumnus maketh the oxen and kine white that drinke of it. And in Bæotia, the river Melas maketh ſheepe blacke: Cephyſſus running out of the ſame lake, cauſeth them to be white: and Penius againe giveth them a black colour: but Xanthus neer

unto Ilium, coloureth them reddish; and hereupon the river tooke that name. In the land of G
Pontus there is a river that watereth the plaines of Astace, upon which, those Mares that feed,
give blacke milke for the food and sustenance of that nation. In the Reatine territorie there
is a fountaine called Neminia: which, according to the springing and issuing forth out of
this or that place, signifieth the change in the price of corne and victuals. In the haven of
Brindis there is a Well, that yeeldeth unto sailers and sea-faring men, water, which will ne-
ver corrupt. The water of Linceſtis, called Acidula [*i.* Soure] maketh men drunken no lesse
than wine. Semblably, in Paphlagonia, and in the territorie of Cales. Also in the Isle An-
dros there is a fountaine neere the temple of father *Bacchus*, which upon the Nones of
Ianuarie, alwaies runneth with water that tasteth like wine, as *Mulianus* verily beleeveth,
who was a man that had beene thrice Consull: The name of the Spring is Dios Tecnosia. H
Neere unto Nonacris in Arcadia, there is the river Styx; differing from the other Styx, nei-
ther in smell nor colour: drinke of it once, and it is present death. Also in Berosus (an hill of
the Tauri) there bee three fountaines, the water whereof whosoever drinketh, is sure to die
of it, remedilesse, and yet without paine. In a countrey of Spaine called Carrinensis, two
Springs there bee that runne neere together, the one rejecteth, the other swalloweth up all
things. In the same countrey there is another water, which sheweth all fishes within it of a gol-
den colour, but if they be once out of that water, they bee like to other fishes. In the Cannen-
sian territorie, neere to the lake Larius, there is a large and broad well, which every houre
continually, swelleth and falleth downe againe. In the Island Sydonia before Lesbos, an hote
fountaine there is that runneth onely in the Spring. The Lake Sinnaus in Asia, is infected with I
the wormewood growing about it, and thereof it tasteth. At Colophon in the vault or cave of
Apollo Clarius, there is a gutter or trench standing full of water: they that drinke of it, shall pro-
phesie and foretel strange things like Oracles, but they live the shorter time for it. Rivers running
backward, even our age hath seene, in the latter yeers of Prince *Nero*, as we have related in the
acts of his life. Now, that all Springs are colder in Summer than Winter, who knoweth not? as
also these wonderous workes of Nature, That brasse and lead in the masse or lumpe sinke downe
and are drowned, but if they be driven out into thin plates, they flote and swim aloft: and let the
weight be all one, yet some things settle to the bottome, others againe glide above. Moreover,
that heavie burdens and lodes be stirred and removed with more ease in water. Likewise, that the
stone Thyrreus, bee it never so big, doth swim whole and entire: breake it once into peeces, and K
it sinketh. As also, that bodies newly dead, fall downe to the bottome of the water, but if they bee
swollen once, they rise up againe. Over and besides, that emptie vessels are not so easily drawne
forth of the water, as those that bee full: that raine water for salt pits is better and more profitable
than all other: and that salt cannot be made, unlesse fresh water be mingled withall: that sea-wa-
ter is longer before it congeale, but sooner made hote and set a seething. That in Winter the sea
is hoter, and in Autumne more brackish and salt. And that all seas are made calme and still with
oyle: and therefore the divers under the water, doe spurt & sprinckle it abroad with their mouths
because it dulceth and allaieth the unpleasant nature thereof, and carrieth a light with it. That no
Snowes fall where the sea is deepe. And, whereas all water runneth downeward by nature, yet
Springs leape up; even at the very foot of Ætna, which burneth of a light fire so farre forth, as L
that for fiftie, yea, and an hundred miles, the waulming round bals and flakes of fire cast out
sand and ashes.

Chap. cliii.

The marvailes of fire and water iointly together, and of Maltha.

NOw let us relate some strange wonders of fire also, which is the fourth element of Na-
ture. But first, out of waters. In a citie of Comagene, named Samosatis, there is a
pond, yeelding forth a kind of slimie mud (called Maltha) which will burne cleare.
When it meeteth with any thing solide and hard, it sticketh to it like glew: also, if it bee tou- M
ched, it followeth them that flee from it. By this meanes the townesmen defended their walls,
when *Lucullus* gave the assault, and his souldiours fried and burned in their owne armours.
Cast water upon it, and yet it will burne. Experience hath taught, That earth onely will
quench it.

Chap.

A

Chap. cv.

of Naphtha.

OF the like nature is Naphtha: for ſo is it called about Babylonia, and in the Auſtacenes countrey in Parthia, and it runneth in manner of liquid Bitumen. Great affinitie there is betweene the fire and it; for fire is readie to leape unto it immediately, if it bee any thing neere it. Thus (they ſay) *Medea* burnt her husbands concubine, by reaſon that her guirland annointed therewith, was caught by the fire, after ſhee approched neere to the altars, with purpoſe to ſacrifice.

B

Chap. cvi.

Of places continually burning.

BVt amongſt the wonderfull mountaines, the hill Ætna burneth alwaies in the nights: and for ſo long continuance of time yeeldeth ſufficient matter to maintaine thoſe fires: in winter it is full of Snow, & covereth the aſhes caſt up, with froſts. Neither in it alone doth Nature tyrranize and ſhew her crueltie, threatning as ſhee doth a generall conſuming of the whole earth by fire. For in Phoſelis the hill Chimæra likewiſe burneth, and that with a continuall fire both night and day: *Cteſias* of Gnidos writeth, That the fire therof is enflamed and ſet a burning
C with water, but quenched with earth. In the ſame Lycia the mountaines Hephæſtij, being once touched and kindled with a flaming torch, do ſo burne out, that the very ſtones of the rivers, yea and the ſand in waters, are on fire withall; and the ſame fire is maintained with raine. They report alſo, that if a man make a furrow with a ſtaffe that is ſet on fire by them, there follow gutters as it were of fire. In the Bactrians countrey, the top of the hill Cophantus burneth every night. Amongſt the Medians alſo, and the Cæſtian nation, the ſame mountains burneth: but principally in the very confines of Perſis. At Suſis verily, in a place called the White Tower, out of fifteene chimnies or tunnels the fire iſſueth, and the greateſt of them, even in the day time carrieth fire. There is a plaine about Babylonia, in manner of a fiſh-poole, which for the quantitie of an acre of ground, burneth likewiſe. In like ſort neere the mountaine Heſperius in Æthyopia, the fields
D in the night time doe glitter and ſhine like ſtarres. The like is to bee ſeene in the territorie of the Megapolitanes, although the field there within-forth bee pleaſant, and not burning the boughes and leaves of the thicke grove above it. And neere unto a warme Spring, the hollow burning furnace called Crater Nymphæi, alwaies portendeth ſome fearful misfortunes to the Apolloniates, the neighbours thereby, as *Theopompus* hath reported. It encreaſeth with ſhowers of raine, and caſteth out Bitumen to be compared with that fountain or water of Styx that is not to be taſted, otherwiſe weaker than all Bitumen beſides. But who would mervell at theſe things? in the mids of the ſea, Hiera one of the Ætolian Iſlands neere to Italie, burned together with the ſea for certaine daies together, during the time of the allies warre, untill a ſolemne embaſſage of the Senat made expiation therefore. But that which burneth with the greateſt fire of all other, is a certaine
E hill of the Æthyopians Theœr Ochema, and ſendeth out moſt parching flames, in the hoteſt ſunne ſhine daies. Lo in how many places with ſundrie fires Nature burneth the earth.

Chap. cvii.

Wonders of fires by themſelves.

MOreover, ſince the nature of this onely element of fire is to be ſo fruitfull, to breed it ſelfe, and to grow infinitely of the leſt ſparkes; what may be thought will be the end of ſo many funeral fires of the earth? What a Nature is that which feedeth the moſt greedie voracitie in the whole world without loſſe of it ſelfe? Put thereto the infinite number of ſtars, the mightie great
F Sunne; moreover the fires in mens bodies, and thoſe that are inbred in ſome ſtones; the attrition alſo of certaine woods one againſt another; yea, and thoſe within clouds, the very originall of lightenings. Surely, it exceedeth al miracles, that any one day ſhould paſſe, and not all the world bee ſet on a light conſuming fire, ſince that the hollow fierie glaſſes alſo ſet oppoſite againſt the Sunne beames, ſooner ſet things a burning than any other fire. What ſhould I ſpeake of innumerable

merable others,which be indeed little, but yet naturally issuing out in great abundance? In the G
Promontorie Nymphæum, there commeth forth a flaming fire out of a rock,which is set a burning with raine. The like is to be seene also at the waters called Scantiæ.But this verily is but feeble when it passeth and removeth,neither endureth it long in any other matter. An ash there is growing over this fierie fountaine and covering it,which notwithstanding is alwaies greene. In the territorie of Mutina,there riseth up fire also, upon certaine set holidaies unto *Vulcane*. It is found written, That if a cole of fire fall downe upon the arable fields under Aricia,the very soile presently is on fire. In the Sabines territorie,as also in the Sidicines, stones if they be annointed or greased,will be set on a light fire.In a towne of the Salentines called Egnatia,if fire be laid upon a certaine hallowed stone there,it will immediately flame out. Vpon the alter of *Iuno Lacinia* standing as it doth in the open aire, the ashes lie unmoveable and stirre not, blow what stormie H
winds that will on every side.Over and besides,there be fires seene suddainely to arise,both in waters and also about the bodies of men. *Valerius Antias* reporteth, That the lake Thrasymenus once burned all over: also that *Servius Tullius* in his childhood,as hee lay asleepe, had a light fire shone out of his head: likewise, as *L. Martius* made an Oration in open audience to the armie,after the two *Scipios* were slaine in Spain,and exhorted his souldiors to revenge their death, his head was on a flaming fire in the same sort. More of this argument, and in better order, will we write soone hereafter. For now we exhibite and shew the mervailes of all things huddled and intermingled together. But in the meane while, my mind being passed beyond the interpretation of Nature,hasteneth to lead as it were by the hand the minds also of the readers, throughout the whole world. I

Chap. cviii.

The measure of the whole earth in length and breadth.

THis our part of the earth whereof I speake,floting as it were within the Ocean (as hath been said)lieth out in length most from the East to the West,that is to say,from India to *Hercules* pillars consecrated at Gades: and as mine authour *Artemidorus* thinketh, it containeth 85 hundred,and 78 miles But according to *Isidorus* 98 hundred,and 18. *M. Artemidorus* addeth moreover, from Gades within the circuit of the sacred Promontorie, to the cape Artabrum, K
where the front and head of Spaine beareth out farthest in length 891 miles. This measure runneth two waies.From the river Ganges and the mouth thereof, whereas he discharged himselfe into the East Ocean,through India and Parthyene unto Myriandrum a citie of Syria,situate upon the gulfe or Firth of Isa,52 hundred and 15 miles.From thence taking the next voiage to the Island Cyprus,to Patara in Lycia,Rhodes and Astypatæa (Islands lying in the Carpathian sea) to Tænarus in Laconia,Lilybæum in Sicilie,Calaris in Sardinia,34 hundred and 50 miles.Then to Gades 14 hundred and 50 miles.Which measures being put all together, make in the whole from the said sea,85 hundred 78 miles. The other way, which is more certaine, lieth most open and plaine by land,to wit,from Ganges to the river Euphrates 50 hundred miles and 21. From thence to Mazaca in Cappadocia 244 miles, and so forward through Phrygia and Caria to L
Ephesus 400 miles,98. From Ephesus through the Ægean sea to Delos 200 miles. Then to Isthmus 212 miles.From thence partly by land,and partly by the Laconian sea and the gulfe of Corinth,to Patræ in Peloponnesus 202 miles and an halfe: so, to Leucas 86 miles and a halfe, and as much to Corcyra. Then to Acroceraunia 132 miles and an halfe: to Brundusium 86 miles and an halfe: so to Rome 3 hundred miles and 60. Then to the Alpes as far as the village Cincomagus 518 miles. Through Fraunce to the Pyrenæan hils, unto Illiberis 556 miles,to the Ocean and the sea coast of Spaine 332 miles. Then the cut over to Gades seven miles and a halfe. Which measure by *Artemidorus* his account, maketh in all 86 hundred 85 miles. Now the breadth of the earth,from the Meridian or South point,unto the North,is collected to bee lesse almost by the one halfe,namely,54 hundred and 62 miles. Whereby it appeareth plainely, how M
much of the one side heat of fire, and on the other side frozen water hath stollen away. For I am not of mind that the earth goeth no farther than so, for then it should not have the forme of a globe; but that the places on either side bee unhabitable, and therefore not found out and discovered. This measure runneth from the shore of the Æthyopian Ocean, which now is habited,unto Meroë,550 miles.From thence to Alexandria 1200 and 40 miles. So,to Rhodes 583 miles,

A miles; to Gnidus, 84 miles and a halfe; to Cos, 25 miles; to Samus, 100 miles; to Chius, 84 miles; to Mitylene, 65 miles; to Tenedos, 28 miles; to the cape Sigæum, 12 miles and a halfe; to the mouth of Pontus, 312 miles and a halfe; to Carambis the promontorie, 350 miles; to the mouth of Mæotis, 312 miles and an halfe; to the mouth of Tanais, 265 miles: which voyage may be cut ſhorter (with the vantage of ſailing directly) by 89 miles. From the mouth of Tanais, the moſt curious Authors have ſet downe no meaſure. *Artemidorus* was of opinion, that all beyond was unfound and not diſcovered, confeſſing that about Tanais the Sarmatian nations doe inhabit, who lie to the North pole. *Iſidorus* hath added hereto twelve hundred miles, as farre as to Thule: which is a judgement of his grounded upon bare gueſſe and conjecture. I take it, that the borders of the Sarmatians are knowne to have no leſſe ſpace of ground, than
B this laſt mentioned commeth unto. And otherwiſe, how much muſt it be, that would containe ſuch an innumerable companie of people ſhifting their ſeats ever and anon, as they do. Wherby I gueſſe, that the over-meaſure of the clime inhabitable, is much greater. For I know certainly, that Germanie hath diſcovered mightie great Ilands not long ſince. And thus much of the length and breadth of the earth, which I thought worth the writing. Now the univerſall compaſſe and circuit thereof, *Eratoſthenes* (a great Clerke verily for all kind of literature, and in this knowledge above all others doubtleſſe moſt cunning, and whome I ſee of all men approved and allowed) hath ſet downe to be 252000 ſtadia. Which meaſure, by the Romanes account and reckoning, amounteth to 300 hundred and 15 hundred miles. A wonderous bold attempt of
C his! but yet ſo exquiſitely calculated and contrived by him, that a ſhame it were not to beleeve him. *Hipparchus*, a wonderfull man both for convincing him, and all his other diligence beſides, addeth moreover little leſſe than 25000 ſtadia.

Chap. cix.

The Harmonicall meaſure, and Circumference of the world.

Dionyſodorus in another kind would be beleeved: (for I will not beguile you of the greateſt example of Grecian vanitie.) This man was a Melian, famous for his skill in Geometrie: hee dyed very aged in his owne countrey: his neere kinſwomen (who by right were his
D heires in remainder) ſolemnized his funerals, and accompanied him to his grave. Theſe women (as they came ſome fewe dayes after to his ſepulchre for to perfourme ſome ſolemne obſequies thereto belonging) by report, found in his monument an Epiſtle of this *Dionyſidorus*, written in his own name To them above, that is to ſay, To the Living: and to this effect, namely, That hee had made a ſtep from his ſepulchre to the bottome and centre of the earth, and that it was thither 42000 ſtadia. Neither wanted there Geometricians, who made this interpretation, That he ſignified that this Epiſtle was ſent from the middle centre of the earth, to which place downward from the uppermoſt aloft, the way was longeſt; and the ſame was juſt halfe the diametre of the round globe: whereupon followed this computation, That they pronounced the circuit to be 255000 ſtadia. Now the Harmonicall proportion, which forceth this univerſalitie and nature
E of the world to agree unto it ſelfe, addeth unto this meaſure 7000 ſtadia, and ſo maketh the earth to be the 96000 part of the whole world.

THE THIRD BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

The Proëme, or Preface.

Hitherto have wee written of the position and wonders of the Earth, Waters, and Starres: also we have treated in generall tearmes, of the proportion and measure of the whole world. Now it followeth, to discourse of the parts thereof: albeit this also be iudged an infinite peece of worke, nor lightly can be hanaled without some reprehension: and yet in no kind of enterprise pardon is more due; since it is no marvaile at all, if he who is borne a mortall man, knoweth not all things belonging to man. And therefore, I will not follow one Author more than another, but every one as I shall thinke him most true in the description of each part. For as much as this hath been a thing common in manner to them all, namely, to learne or describe the situations of those places most exactly, where themselves were either borne, or which they had discovered and seene: and therefore, neither will I blame nor reproove any man. The bare names of places shall be simply set downe in this my Geographie; and that with as great brevitie as I can: the excellencie, as also the causes and occasions thereof, shall be deferred to their severall and particular treatises: for now the question is as touching the whole earth in generalitie, which mine intent is to represent unto your eyes: and therefore I would have things thus to be taken, as if the names of countries were put downe naked, and void of renowme and fame, and such onely as they were in the beginning, before any actes there done; and as if they had indeed an endument of names, but respective onely to the world and universall nature of all.

Now the whole globe of the earth is divided into three parts, Europe, Asia, and Africa. The beginning we take from the West and the Firth of Gades, even whereas the Atlanticke Ocean breaking in, is spred into the Inland and Mediteranean seas. Make your entrance there, I meane at the Streights of Gibraltar, and then Africke is on the right hand, Europe on the left, and Asia before you iust betweene. The bounds confining these, are the rivers Tanais and Nilus. The mouth of the Ocean at Gades (whereof I spake before) lyeth out in length 15 miles, and stretcheth forth in breadth but five, from a village in Spaine called Mellaria, to the promontorie of Africke, called the White, *as* Turannius Graccula *borne thereby, doth write.* T. Livius *and* Nepos Cornelius *have reported, that the breadth thereof where it is narrowest, is seven miles over, but ten miles where it is broadest. From so small a mouth (a wonder to consider) spreadeth the sea so huge and so vast as wee see; and withall, so exceeding deepe, as the marvaile is no lesse in that regard. For why? in the very mouth thereof, are to be seene many barres and shallow shelves of white sands (so ebbe is the water) to the great terrour of shippes and Sailers passing that way. And therefore many have called those Streights of Gibraltar, The entrie of the Mediteranean sea. Of both sides of this gullet, neere unto it, are two mountaines set as frontiers and rampiers to keepe all in: namely, Abila for Africke, Calpe for Europe, the utmost end of* Hercules *Labours. For which cause, the inhabitants of those parts call them, The two pillars of that God; and doe verily beleeve, that by certaine draines and ditches digged within the Continent, the maine Ocean, before excluded, made way and was let in, to make the Mediteranean seas, where before was firme land: and so by that meanes the very face of the whole earth is cleane altered.*

A

Chap. 1.

Of Europe.

AND first, as touching Europe, the nource of that people which is the conquerour of all nations; and besides, of all lands by many degrees most beautifull: which may for right good cause, have made not the third portion of the earth, but the one halfe (dividing the whole globe of the earth into two parts:) to wit, from the river Tanais unto the Streights of Gades. The Ocean then, at this space above-said, entreth into the
B Atlanticke sea, and with a greedie current drowneth those lands which dread his comming like a tyrant; but where he meeteth with any that are like to resist, those he passeth just by, and with his winding turnes and reaches, he eateth and holloweth the shore continually to gaine ground, making many noukes and creekes every where: but in Europe most of all, wherein foure especiall great gulfes are to be seene.

Of which, the first, from Calpe the utmost promontorie (as is above-said) of Spaine, windeth and turneth with an exceeding great compasse, to Locri, and as farre as the promontorie Brutium. Within it lieth the first land of all others, Spaine; that part I meane, which in regard of us at Rome, is the farther off, and is named also Bœtica. And anon from the Firth Virgitanus, the hither part, otherwise called Tarraconensis, as farre as to the hills Pyrenæi. That farther part
C of larger Spaine, is divided into two provinces in the length thereof: for on the North side of Bœtica, lyeth Lusitania afront, divided from it by the river Ana.

This river beginneth in the territorie Laminitanus of the hither Spaine, one while spreading out it selfe into broad pooles or meeres, other whiles gathering into narrow brookes: or altogither hidden under the ground, and taking pleasure to rise up oftentimes in many places, falleth into the Spanish Atlantick Ocean. But the part named Tarraconensis, lying fast upon Pyrenæus, and shooting along all the side thereof, and withall, stretching out it selfe overthwart and crosie from the Iberian sea to the Gauls Ocean, is separated from Bœtica and Lusitania, by the mountaine Salarius, and the cliffes of the Oretanes, Carpetanes, and Asturians.

Bœtica, so called of the river Bœtis, that cutteth in the mids, out-goeth all the other provin-
D ces for rich furniture, and a certaine plentifull trimnesse and peculiar beautie by it selfe. Therein are held foure solemne Iudiciall great Assizes and Parliaments, according to foure Counties or Shires; to wit, the Gaditane, Cordubian, Astigitane, and Hispalensis. Townes in it are all in number 175; whereof there are Colonies, eight; free Boroughes, eight; townes endued with the auncient franchises of Latium 29: with Freedome, sixe; Confederate, foure; Tributarie paying custome, 120. Of which, those that be worth the naming, and are more currant in the Latine tongue, be these under-written: to wit, On the river Ana side and the Ocean coast, the citie Ossonoba, surnamed also Lusturia. There runne betweene, Luxia and Vrium, two rivers. The hills Ariani: the river Bœtis: the shore Corense, with a winding creeke. Over-against which, ly-
E eth Gades, to be spoken of among the Ilands. The Cape or Head of *Iuno*: the haven Besippo. Townes, Belon, and Mellaria. The Streights or Firth out of the Atlanticke sea. Carteia, called Tertessos by the Greekes; and the mountaine Calpe. Then, within the firme land, the towne Barbesula, with the river. *Item*, the towne Salbula, Suel-Malacha upon the river of our Confederates. Next to these, Menoba with a river: Sexi-firmum, surnamed Iulium: Selaubina, Abdera, and Murgis the frontier towne of Bœtica. All that whole coast, *M. Agrippa* thought to have had their beginning and discent from the Carthaginians. From Ana, there lyeth against the Atlanticke Ocean, the region of the Bastuli and the Turduli.

M. Varro saith, that there entred into all parts of Spaine, the Herians, Persians, Phœnicians,
F Celtes, and Carthaginians or Africanes: for *Lusus*, the companion of Father *Liber* or *Liba*, (which signifieth the frantick furie of those that raged with him) gave the name to Lusitania; and *Pan* was the governour of it all. But those things which are reported of *Hercules* and *Pyrene*, or of *Saturne*, I thinke to be as vaine and fabulous tales as any other. As for Bœtis, in the Tarraconensian province, rising, not as some have said, at the towne Mentesa, but in the chase or forrest Tugrensis, which the river Tader watereth, as it doth the Carthaginian pale also at Ilorcum, shunneth the funerall fire and sepulchre of *Scipio*: and turning into the West, maketh toward

the Atlantick Ocean, adopting the province and giving it his own name, is at first but final, how- G
beit receiveth many other rivers into it, from which it taketh away both their name & their waters. And first being entred from Offigitania into Bœtica, running gently with a pleasant channell, hath many townes both on the left hand and the right, seated upon it. The most famous and populous betweene it and the sea coast in the Mediterranean part thereof, are Segeda surnamed Augurina: Iulia, which is also called Fidentia: Virgao, otherwise Alba: Ebura, otherwise Cereolis: Illiberi, which is also Liberini: Ilipua named likewise Laus. Artigi or Iulienses: Vesci the same that Faventia: Singilia, Hegua, Arialdunum, Agla the lesse, Bæbro, Castra Vinaria, Episibrium, Hipponova, Illurco, Osca, Escua, Succubo, Nuditanum, Tucci the old, all which belong to Bastitania, lying toward the sea. But within the Countie or jurisdiction of Corduba, about the very river standeth the towne Offigi, which is surnamed Laconicum: Illiturgi, called also Forum H
Iulium: Ipasturgi the same that Triumphale, Sitia: and foureteene miles within the countrey, Obulco, which is named Pontificense. And anon (you shall see) Ripepora, a towne of the confederates, Sacili, Martialum, Onoba. And on the right hand Corduba, surnamed Colonia Patritia: and then beginneth Bœtis to be navigable, and not before. As you go lower, you shal find towns Carbulo, Decuma, the river Singulis, falling into the same side of Bœtis. The towns of the countie Hispalensis be these, Celtica, Axatiara, Arruci, Menoba, Ilipa surnamed Italica. And on the left hand, Hispalis a Colonie, surnamed likewise Romulensis. But right forward opposite unto it, the town Osset, which hath a name besides, Iulia Constantia: Vergentum, which also is the same that Iulij Genitor, Hippo Caurasiarum, the river Menoba, which also entreth into Bœtis on the right side. But within the washes and downes of Bœtis, there is the town Nebrissa surnamed Ve- I
neria and Colobona: also Colonies, namely, Asta, which is called Regia. And in the mid-land part, Asido, which is the same that Cæsariana. The river Singulus breaking into Bœtis in that order as I have said, runneth hard by the Colonie Astigitania, surnamed also Augusta Firma, and so forward it is navigable. The rest of the Colonies belonging to this Countie, are free and enjoy immunitie of Tribute: namely, Tucci, which is surnamed Augusta Gemella: Itucci, the same that Virtus Iulia, Attubi all one with Claretas Iulia [*i.* excellencie of *Iulius*.] Vrso, which is Genua Vrbanorum: and among these, Munda, which together with *Pompeies* son, was taken. Free townes, Astigi the old, and Ostippo. Tributarie, Callet, Calucula, Castra Gemina, Ilipula the lesse, Merucra, Sacrana, Obulcula, Oningis. As a man commeth from the coast, neere to the river Menoba, which also wil beare a ship, there dwell not farre off the Alontigicili, and Alostigi. But all that K
region which without the forenamed, reacheth from Bœtis to the river Ana, is called Beturia: devided into two parts, and as many sorts of people: to wit, the Celtici, who meet with Lusitania, and are within the devision or countie Hispalensis: and the Turduli, who inhabite fast upon Lusitania and Tarraconensis: and they owe service to the Countie-Court of Corduba. As for the Celtici, manifest it is, That they came from the Celtiberians out of Lusitania, as appeareth by their religion, tongue, and names of townes, which in Bœtica are distinguished by their additions or surnames, to wit, Seria which is called Fama Iulia: Vcultuniacum, which now is Curiga: Laconimurgi, Constantia Iulia, Terresibus is now Fortunales, and Callensibus, Emanici. Besides all these, in Celtica Acinippo, Arunda, Arunci, Turobrica, Lastigi, Alpesa, Sæpona, Serippo. The other Beturia, which we said contained the Turduli, and belonged to the Countie of Cor- L
duba, hath townes of no base account, Arsa, Mellaria and Mirobrica: and regions or quarters, Ostrutigi, and Sisipone. Within the Countie of Gades, there is of Romane cittizens a towne called Regina: of Latines there are Læpia, Vlia, Carisa surnamed Aurelia, Vrgia which is likewise named Castrum Iulium: also, Cæsaris Salutariensis. But Tributaries there bee these, Besaro, Besippo, Berbesula, Lacippo, Besippo, Callet, Cappagum, Oleastro, Itucci, Brana, Lacibi, Saguntia, Andorisippo. The whole length of it, *M. Agrippa* hath set downe 463 miles, and the breadth 257. But for that the bounds reached forward as farre as to Carthage, which cause breedeth oftentimes errours in the taking of the measures, whiles in one place the limits of the provinces were changed, and in another the pases in journying were either more or lesse; also, considering the seas in so long continuance of time have encroched here upon the land, and the bankes a- M
gaine gotten there of the sea, and beare farther in; also, for that the reaches of the rivers have either turned crooked or gone streight & direct; over and besides, for that some have begun to take their measure from this place, others from that, and gone divers waies: it is by these means come to passe, that no twain accord together in one song, as touching their measure and Geographie.

CHAP.

A

Chap. II.

The length and breadth of Bætica.

THe length of Bœtica at this day from the bound of the towne Caſtulo unto Gades, is 475 miles: and from Murgi the maritine coaſt or lands end, more by 22 miles. The bredth from the edge or border of Carteia, is 224 miles. And verily, who would beleeve, that *Agrippa* (a man ſo diligent, and in this worke principally, ſo curious) did erre, when he purpoſed to ſet out a map of the whole world openly to be ſeene of the whole cittie, and namely, when *Auguſtus Cæſar* of happie memorie, joined with him? For hee it was that finiſhed the porch or gallerie begun
B by *Agrippaes* ſiſter, according to his will appointment and direction, which contained the ſaid pourtraict.

Chap. III.

The hither or higher Spaine.

THe old forme of the hither Spaine is ſomewhat changed, like as of many other provinces: conſidering that *Pompey* the great in his triumphant trophees which hee erected in Pyrenæus, teſtifieth, That 846 townes betweene the Alpes and the marches of the farther or lower Spain, were ſubdued by him & brought to obedience. Now, is the whole province devided
C into ſeven Counties, the Carthaginian, the Tarraconian, Cæſar Auguſtani, Clunienſis, Aſturia, Lucenſis, & Bracarum. There are beſides Iſlands, ſetting aſide which, without once naming them, and excepting the citties that are annexed to others, the bare province containeth 294 townes. In which, Colonies there be twelve, townes of Romane cittizens thirteene, of old Latines ſeventeene, of allies within the league, one; tributarie, a hundred thirtie ſixe. The firſt in the very frontiers thereof, be the Baſtulians: behind them in ſuch order as ſhall bee ſaid: namely, thoſe inlanders that inhabite within-forth, the Menteſanes, Oretanes, and the Carpetanes upon the river Tagus. Neere to them, the Vaccæans, Vectones, Celtiberians, and Arrebaci. The towns next to the marches, Vrci, and Barea laid to Bœtica: the countrey Mauritania, then Deitania: after that, Conteſtania, and new Carthage, a Colonie. From the Promontorie whereof called *Saturnes*
D cape, the cut over the ſea to Cæſaria a cittie in Mauritania, is of 187 miles. In the reſidue of that coaſt is the river Tader: the free Colonie Illici, of which, a firth or arme of the ſea tooke the name Illicitanus. To it owe ſervice and are annexed the Icoſitanes. Soone after, Lucentum a town of the Latines. Dranium a tributarie, the river Sucro, which was ſometime the frontier towne of Conteſtania. The region Edetania, which retireth inward to the Celtiberians, having a goodly pleaſant poole bordering along the front of it. Valentia, a Colonie lying three miles from the ſea. The river Turium: and juſt as farre from the ſea, Saguntum, a towne of Romane cittizens, renowned for their fidelitie. The river Idubeda, and the region of the Ilergaones. The river Hebre, yeelding ſuch riches of trafficke and commerce, by reaſon that it is navigable: which beginneth in the Cantabrians countrey, not farre from the towne Inliobrica, and holdeth on his courſe 430
E miles: and for 260 of them, even from the towne Varia, carrieth veſſels of merchandiſe, in regard of which river, the Greekes named all Spaine Iberia. The region Coſſetania, the river Subi, the Colonie Tarraco, built by the *Scipioes*, like as Carthage by the Affricanes. The countrey of the Illergetes, the towne Subur, the river Rubricatum, and from thence the Lacetanes and Indigetes. After them in this order following: within-forth at the foot of Pyrenæus, the Auſetanes, Itanes, and Lacetanes: and along Pyrenæus the Cerretanes, and then the Vaſcones. In the edge or marches thereof, the Colonie Barcino, ſurnamed Faventia. Townes of Romane cittizens, Bætulo, Illuro, the river Larnum, Blandæ: the river Alba, Emporiæ: two there be of theſe, to wit, of the old inhabitants, and of the Greekes, who were the off-ſpring deſcended from the Phocæans.
F The river Tichus. From whence to Pyrenæa Venus, on the other ſide of the Promontorie, are fortie miles. Now beſides the forenamed, ſhall bee related the principall places of marke as they lie in every Countie. At Tarracon there plead in court foure and fortie States. The moſt famous and of greateſt name among them, be of Romane cittizens the Dertuſanes, and Biſgargitanes: of Latines, the Auſetanes and Cerretanes ſurnamed Iulianes: they alſo who are named Auguſtanes, the Sedetanes, Gerundenſes, Geſſarians, Tearians, the ſame that Iulienſes. Of Tributaries,

taries, the Aquicaldenſes, Onenſes, and Bætulonenſes. Cæſar Auguſta, a free Colonie, vpon G
which the river Iberus floweth: where the towne before was called Salduba: theſe are of the regi-
on Sedetania, and receiveth 52 States: and among theſe, of Romane citizens the Bellitanes and
Celſenſes. And out of the Colonie, the Calaguritanes ſurnamed alſo Naſcici. The Ilerdians of
the Surdaons nation, neer vnto whom runneth the river Sicoris. The Oſcians of the region Veſ-
cetania, and the Turiaſonenſes. Of old Latins, the Caſcantenſes, Euganicenſes, Gracchuritanes,
Leonicenſes, Oſſigerdenſes. Of confederates within the league, the Tarragenſes. Tributaries be-
ſides, the Arcobricenſes, Andologenſes, Arocelitanes, Burſaonenſes, Calaguritanes ſurnamed
Fibularenſes, Complutenſes, Carenſes, Cincenſes, Cortonenſes, Dammanitanes, Larrenſes, Itu-
riſenſes, Iſpalenſes, Ilumberitanes, Lacetanes, Vibienſes, Pompelonenſes and Segienſes. There
reſort to Carthage for law 62 ſeverall States, beſides the Iſlanders. Out of the Colonie Accitana, H
the Gemellenſes, alſo Libiſoſona ſurnamed Foroauguſtana: which two are endued with the fran-
chiſes of Italie: out of the Colonie Salarienſis, the Oppidanes of old Latium, Caſtulonenſes,
whom *Cæſar* calleth *Venales*. The Setabitanes, who are alſo Auguſtanes, and the Valerrienſes.
But of the Tributaries, of greateſt name bee the Babanenſes, the Baſcianes, the Conſaburenſes,
Dianenſes, Egeleſtanes, Ilorcitani, Laminitani, Menteſani, the ſame that Oritani; and Menteſani
who otherwiſe are Baſtuli: Oretanes who alſo are called Germani, the cheefe of the Celtiberians,
the Segobrigenſes, and the Toletanes of Carpetania, dwelling vpon the river Tagus. Next to
them the Viacienſes and Virgilienſes. To the aſſiſes or law court Clunienſis, the Varduli bring
foureteene nations; of which I liſt to name none but the Albanenſes: but the Turmodigi foure,
among whom are the Segiſamonenſes, Sagiſamejulienſes. To the ſame aſſiſes, the Carietes and I
the Vennenſes doe goe out of five cities, of which the Velienſes are. Thither repaire the Pelen-
dones, with four States of the Celtiberians, of whom the Numantines were famous: like as in the
eighteene citties of the Vaccæans, the Intercatienſes, Pallantini, Lacobricenſes, and Caucenſes:
for in the foure States of the Cantabrici, onely Iuliobrica is named. In the tenne States of the
Autrigones, Tritium and Vironeſca. To the Arevaci the river Areva gave name. Of them there
be ſeven townes, to wit, Saguntia and Vxama, which names be often uſed in other places: beſides
Segovia and Nova Auguſta, Termes, and Clunia it ſelfe the very vtmoſt bound of Celtiberia. All
the reſt lie toward the Ocean, & of the abovenamed the Verduli together with the Cantabri. To
theſe there are joined twelve nations of the Aſtures, devided into the Auguſtanes & Tranſmon-
tanes, having a ſtately cittie Aſturica. Among theſe are reckoned, Giguri, Peſici, Lancienſes and K
Zoclæ. The number of the whole multitude ariſeth to 240000 pols of free men, beſides ſlaves. The
Countie or juriſdiction Lucenſis, compriſeth ſixteene townes (beſides the Celtikes and Lebuni-
ans) of baſe condition, and having barbarous names; howbeit, of freemen to the number well
neere of 166000. In like manner 24 citties, which affoord 275000 pols, ow ſervice to the court of
Bracarum: of whom beſides the Bracarians themſelves, the Vibali, Celerini, Gallæci, Æqueſilici
and Quinquerni, may be named without diſdaine and contempt. The length of the hither Spain,
from Pyrenæus to the bound of Caſtulo is 607 miles, and the coaſt therof ſomewhat more. The
breadth from Tarracon to the ſhore of Alarſon, 307 miles. And from the foot of Pyrenæus,
where, betweene two ſeas it is pointed with the ſtreights, and ſo opening it ſelfe by little and little
from thence, untill it come to touch the farther Spain, it is as much, and addeth ſomewhat more L
to the breadth. All Spaine throughout in manner is full of mettall mines, as lead, yron, braſſe, ſil-
ver, and gold: the hither part thereof aboundeth beſides with ſtone glaſſes, or glaſſe ſtones: and
Bætica particularly with vermilion. There bee alſo there quarries of marble. Vnto all Spaine
throughout, *Veſpaſianus Auguſtus* the Emperour, toſſed with the tempeſts and troubles of the
Commonweale, graunted the franchiſes of Latium. The mountaines Pyrenæi do confine Spaine
and Fraunce one from the other, lying out with their promontories into two contrarie ſeas.

Chap. iiii.

The province Narbonenſis.

M

THat part of Gallia which is waſhed and beaten upon with the Mediteranean ſea, is called
the province Narbonenſis, named afore-time Braccata, divided from Italie by the river
Varus and the Alpes; moſt friendly mountaines to the Romane Empire: and from the
other parts of Gaule, on the north ſide, by the hils Gebenna and Iura. For tillage of the ground,

for

A for reputation of men, regard of civilitie and manners, and for wealth, worthy to be set behind no other provinces whatsoever: and in one word, to be counted Italie more truly than a province. In the edge or marches thereof, lyeth the countrey of the Sardaons; and within, the region of the Consuarones. The rivers be Tecum and Vernodubrum: the townes, Illiberis (a poore relique and simple shew of a citie to that it was in old time) and Ruscio, inhabited by the Latines. The river Atax springing out of Pyrenæus, runneth through the lake Rubrensis and floteth over it. *Narbo Martius* a Colonie inhabited by the Legionaries of the tenth legion, twelve miles distant from the sea. Rivers, Araris and Liria. Townes in the other parts, scattering here and there by reason of pooles and meeres lying before them: namely, Agatha, in times past belonging to the Massilians, and the region of Volscæ Tectosages. Also, where Rhoda of the Rhodians was,
B whereof Rhodanus tooke name, the most fruitfull river by farre of all Gallia, running swiftly out of the Alpes through the lake Lemanus, and carrying with it the dead and slow river Araris; and Isara running as fast as it selfe, together with Druentia. The two small mouthes or passages thereof are called Lybica: of which, the one is Hispaniensum, the other Metapinum: a third there is besides, and the same most wide and large, named Massalioticum. There be that write, how the towne Heraclea likewise stood upon the mouth of Rhodanus. Beyond the ditch out of Rhodanus, which was the work of *C. Marius* and bearing his name, there was a notable poole or meere. Moreover, the towne Astromela, and the maritime tract of the Avætici: and above it, the stonie plaines, carrying the memoriall of *Hercules* his battailes. The region of the Anatilians, and
C within-forth, of the Desuviates and Cavians. Againe, from the sea; Tricorum, and inward, the region of the Tricollivocantians, Segovellaunes, and anon of the Allobroges: but in the marches, Massilia of Greeke Phocæans: within the league. The promontorie Citharista, Zaopartus, and the region of the Camatullici. After them, the Suelteri; and above them, Verucines. But in the coast along still, Athenopolis under the Massilians, Forum Iulij a Colonie of the ninth legion souldiers, which also is called Parensis and Classica: in it is the river Argenteus: the region of the Oxubij and Ligaunians; above whome, are the Suetri, Quariates, and Adunicates: but in the borders, a Latine towne Antipolis. The region of the Deciates, the river Varus gushing out of an hill of the Alpes, called Acema. In the middle part thereof the Colonies, Arelate of the sixth legion souldiers, Bliteræ of the seventh, and Arausia of those belonging to the
D second. In the territorie of the Cavians, Valentia and Vienna, of the Allobroges. Latine towns, Aquæ Sextiæ of the Salyans, and Avenio of the Cavians, Apta Iulia of the Vulgientians, Alebecerriorum of the Apollinares, Alba of the Heluans, Augusta of the Tricostines; Anatilia, Acria, Bormanni, Comacina, Cabellio, Carcasum, of the Volscane Tectosages: Cessero, Carpentoracte, of the Menines: the Cenicenses, Cambolecti, who are named besides Atlantici, Forom Voconij, Glanum, Livij, Lutevani, who are the same that Foro-neronienses. Nemausum of the Arecomici, Piscenæ, Ruteni, Sanugenses, and Tolosani, of the Tectosages. The neighbour borderers upon Aquitane, Tasco-dumetari, Canonienses, Vmbranici. Two capitall towns of the confederate State of the Vocontians, Vasco and Lucus Augusti. But base townes of no importance nineteene, as 24 more annexed to the Nemausiens, and under their Seignorie. To
E this charter or Instrument enrolled, *Galba* the Emperour added of the Alpine inhabitants, the Avantici and Eproduntij; whose towne is named Dima. *Agrippa* saith, that the length of this province Narbonensis, is 270 miles, and the breadth 248.

Chap. V.

Italie, Tiberis, Rome, Campania.

NExt to them is Italie, and the first of all, the Ligurians: then Hetruria, Vmbria, Latium, where be the mouthes of Tiberis and Rome the head citty of the whole earth 16 myles distant from the sea. After it, is the maritime countrey of the Volscians, and Campania: then Picentium, Lucanum, and Brutium, the furthest point in the South, unto which from the
F crooked mountaines of the Alpes, like in manner to the moone croissant, with some parts higher, other lower, Italie shooteth out in length to the seas: from it, is the sea coast of Græcia, and soone after, the Salentines, Pediculi, Apuli, Peligni, Ferentani, Marrucini, Vestines, Sabines, Picentes, Gaules, Vmbrians, Thuscans, Venetians, Carnians, Iapides, Istrians, and Liburnians.

Neither

Neither am I ignorant, that it might be thought and that juſtly, a point of an unthankfull G
mind and idle withall, if briefly in this ſort, and as it were by the way, that land ſhould be ſpoken
of which is the nource of all lands. Shee alſo is the mother, choſen by the powerfull grace of
the gods, to make even heaven it ſelfe more glorious; to gather into one the ſcattered empires,
to ſoften and make civile the rude faſhions of other countries; and whereas the languages of ſo
many nations were repugnant, wild, and ſavage, to draw them together by commerce of ſpeech,
conference, and parley; to endue man with humanitie; and briefly, that of all nations in the
world, there ſhould be one onely countrey. But here, what ſhould I doe? So noble are all the
places that a man ſhall come unto, ſo excellent is every thing, and each State ſo famous and re-
nowmed, that I am fully poſſeſſed with them all, and to ſeeke what to ſay. Rome citie, the onely
faire face therein, worthy to ſtand upon ſo ſtately a necke and paire of ſhoulders, what worke H
would it aske thinke you, to be ſet out as it ought? The very tract of Campaine by it ſelfe, ſo
pleaſant and goodly, ſo rich and happy, in what ſort ſhould it be deſcribed? So as it is plaine and
evident, that in this one place there is the workmanſhip of Nature wherein ſhe joyeth and taketh
delight. Now beſides all this, the whole temperature of the aire, is evermore ſo vitall, healthie,
and holeſome, the fields ſo fertile, the hills ſo open to the ſunne, the forreſts ſo harmeleſſe, the
groves ſo coole and ſhadie, the woods of all ſorts ſo bounteous and fruitfull, the mountaines
yeelding ſo many breathing blaſts of wind; the corn, the vines, the olives ſo plentifull; the ſheep
ſo enriched with fleeces of the beſt wooll, the bulls and oxen ſo fat and well fed in the necke; ſo
many lakes and pooles, ſuch ſtore of rivers and ſprings watering it throughout; ſo many ſeas
and havens, that it is the very boſome lying open and ready to receive the commerce of all lands I
from all parts: and yet it ſelfe full willingly deſireth to lye farre into the ſea to helpe all mankind.
Neither doe I ſpeake now of the natures, wits, and faſhions of the men; ne yet of the nations a-
broad ſubdued with their eloquent tongue, and ſtrong hand. Even the Greekes (a nation of
all other moſt given to praiſe themſelves beyond all meaſure) have given their judgement of
her, in that they called ſome ſmall part thereof, Great Greece. But in good faith, that which wee
did in the mention of the heaven, namely, to touch ſome knowne Planets and a few ſtarres, the
ſame muſt we likewiſe doe in this one part: only I would pray the readers to remember and carry
this away, That I haſten to rehearſe every particular thing through the whole round globe of the
earth.

Well then, to begin, Italy is faſhioned like for all the world to an Oke leafe, and much larger K
in length than breadth: to the left ſide bending with the top, and ending in the figure and fa-
ſhion of an Amazonian ſhield: and where that tract of Calabria lyeth which is called Cocin-
thos, it putteth foorth into thoſe two promontories or capes like the moones two hornes; the
one, Leucopetra on the right hand; the other, Lacinium on the left. In length it reacheth from
the foot of the Alpes, through Oſtia or Prætoria Auguſta, directly to the citie of Rome, and ſo
forward to Capua, with a direct courſe leading to Rhegium a towne ſituate upon the ſhoulder
thereof: from which beginneth the bending as it were of the necke, and beareth 1000 and 20
myles. And this meaſure would growe to be farre more, if it went as farre as Lacinium, but that
ſuch an obliquitie and winding might ſeeme to decline and beare out too much unto one ſide.
The breadth thereof is diverſly taken, namely, 410 miles betweene the two ſeas, the higher and L
the lower, and the rivers Varus and Arſia. The middes of which breadth, (and that is much a-
bout the citie of Rome) from the mouth of the river Aternus running into the Adriaticke ſea,
unto the mouthes of Tiberis, 136 miles, and ſomewhat leſſe: from Novum Caſtrum by the
Adriaticke ſea, to Alſium and ſo to the Tuſcane ſea: and in no place exceedeth it in breadth 300
miles. But the full compaſſe of the whole from Varus to Arſia, is 20049 miles. Diſtant it is by
ſea from the lands round about, to wit, from Iſtria and Liburnia in ſome places 100 miles; from
Epirus and Illyricum 50 miles; from Africke leſſe than 200, as *Varro* affirmeth; from Sardinia,
an hundred and 20 miles; from Sicilie, a mile and a halfe: from Corcyra leſſe than 70; from
Iſſa, fiftie. It goeth along the ſeas, to the Meridionall line verily of the heaven; but if a man exa-
mine it exactly indeed, it lyeth betweene the Sunne riſing in mid-winter, and the point of the M
Noone-ſteed.

Now will we deſcribe the compaſſe and circuit thereof, and recken the cities: wherein, I muſt
needs proteſt by way of Preface, that I will follow for mine Authour *Auguſtus* the Emperour
of famous memorie, and the deſcription by him made of all Italie, which be devided into 11

Regions

A Regions or Cantons. As for the maritime townes, I will set them downe in that order as they stand, according to their vicinitie one to another. But for as much as in so running a speech and hastie pen, the rest cannot possibly be so orderly described: therefore in the inland part therof, I will follow him as he hath digested them by the letters of the Alphabet: but mentioning withall, the colonies or chiefe cities by name, which he hath delivered in that number. Neither is it an easie matter to know throughly their positions and foundations, considering the Ingaune Ligurians (to say nothing of all the rest) were endowed with lands thirtie times, and chaunged their seates. To begin with the river Varus therefore, there offereth to our eye, first the towne Nicæa, built by the Massilians: the river Po; the Alpes; the people within the Alpes of many names, but of most marke Capillati, with long haire: the towne Vediantiorum, the cittie Ce-
B melion, or, a towne belonging to the State of the Vediantians, called Cemelion: the port of *Hercules* and *Monœcus*, and so the Ligurian coast. Of the Ligurians, the most renowmed beyond the Alpes, are the Sallij, Deceates, and Oxubij: on this side, the Veneni, and descended from the Caturiges, the Vagienni, Statyelli, Vibelli, Magelli, Euburiates, Casmonates, Veliates, and those, whose townes wee will declare in the next coast. The river Rutuba, the towne Albium Intemelium, the river Merula, the towne Albium Ingaunum, the port or haven towne Vadum Sabatium, the river Porcifera, the towne Genua, the river Fertor, the Port Delphini, Tigulia: within, Segesta Tiguliorum: the river Macra which limiteth Liguria. Now on the backe side behind all these townes abovenamed, is Apenine, the highest mountain
C of all Italie, reaching from the Alpes with a continuall ridge of hils, to the streights of Sicilie. From the other side thereof to Padus, the richest river of all Italie, all the countrey shineth with goodly faire townes, to wit, Liberna, Dertona a Colonie, Iria, Barderates, Industria, Pollentia, Carrea, which also is named Polentia, Foro Fulvij the same that Valentinum, Augusta of the Vagienni: Alba Pompeia, Asta, and Aquæ Statyellorum. And this is the ninth Canton, after the Geographie of *Augustus*. This coast or tract of Liguria containeth betweene the rivers Varus and Macra 211 miles. To it is adjoined the seventh, wherein is Hetruria from the river Macra: and it oftentimes chaunged the name. In old time the Pelasgians chased the Vmbrians from thence: and by them the Lydians did the like, of whose king, named they were Tyrrheni: but soone after, of their ceremonies in sacrificing, in the Greekes language *Thusci*. The first towne of Hetru-
D ria, is Luna, famous for the haven; then the Colonie Luca, lying from the sea: and neerer unto it, is Pisæ, betweene the river Auser and Arnus, which tooke the beginning from *Pelops* and the Pisians, or Atintanians a Greeke nation. Vada Volaterranea, the river Cecinna. Populonium of the Tuscanes in times past, situate onely upon this coast. After these, the rivers Prille, and anone after Vmbro, navigable, and of it tooke name: so forward the tract of Vmbria, and the port towne Telamon: Cosa Volscientium, a Colonie planted there by the people of Rome, Graviscæ, Castrum Novum, Pyrgi, the river Cæretanus, and Cære it selfe, standing foure miles within, called Agylla by the Pelasgians who built it: Alsium and Frugenæ. The river Tiberis, distant from Macra 284 miles. Within-forth are these Colonies, Falisca descended from Argi (as *Cato* saith) and
E for distinction is called Hetruscorum. Lucus Feroniæ, Russellana, Senensis and Sutriva. As for the rest, these they be, Aretini the old, Aretini Fidentes, Aretini Iulienses, Amitinenses, Aquenses surnamed Taurini: Vlerani, Cortonenses, Capenates, Clusines the old, Clusines the new, Fluentini, fast upon the river Arnus that runneth before them, Fesulæ, Ferentinum, Fescennia, Hortanum, Herbanum, Nepet, Novempagi [*i.* the nine villages] the Shire-wiek called Prefecture Claudia, or Foro Clodij: Pistorucin, Perusia, Suanenses, Saturnini, who beforetime were called Aurinini, Sudertani, Statones, Tarquinienses, Tuscanienses, Vetulonienses, Veientani, Vesentini, Volaterrani surnamed Hetrusci and Volsinienses. In the same part lie the territories Crustuminus and Cæletranus, bearing the names of the old townes. Tiberis, beforenamed Tybris, and before that Albula, from the middest well neere of Apennine, as it lieth in length, runneth along the marches of the Aretines: small and shallow at the first, and not able to beare a vessell without be-
F ing gathered together, as it were, by fishpooles into an head, and so let goe at sluces: as Tinia and Glanis which run into him, the which are at the same passe, and require nine daies for collection of waters, and so are kept in for running out: in case they have no helpe of raine at all. But Tiberis by reason of the rough, stonie, and rugged channell, for all that devise, holdeth on no long course together, but onely for troughes, to speake more truly, than boats: and thus it doth for a hundred and fiftie miles, not farre from Tifernum, Perusia and Otriculum: dividing as it passeth

Hetruria from the Vmbrians and Sabines: and so forth untill anon, within thirteene miles of the G
cittie [Rome] it parteth the Veientian countrey from the Crustumine: and soone after the Fidenate and Latine territories from the Labicane. But besides Tinia and Glanis, hee is augmented with two and fortie rivers, and especially with Nar and Anio: which river being also it selfe navigable, encloseth Latium behind: and nevertheless so many waters and fountaines are brought thereby into the cittie, whereby it is able to receive any ships, bee they never so great, from the Italian sea; and is the kindest marchant to conveigh all commodities growing and arising in any place of the whole world: it is the onely river of all others, to speake of, and more villages stand upon it and see it, than all other rivers in what lands soever. No river hath lesse libertie than it, as having the sides thereof enclosed on both hands, and yet hee is no quarreller, nor much harme doth he, albeit he hath many and those suddaine swellings, and in no place more than in the ve- H
ry cittie of Rome doe his waters overflow: yet is he taken to be a prophet rather, and a Counsellor to give warning, yea, and in swelling, more religious and breeding scruple to speake a truth, than otherwise cruell and doing any great harme. Old Latium from Tiberis to Circeios was observed to be in length fiftie miles. So small roots at the first tooke this Empire. The inhabitants thereof changed often, and held it, some one time, some another; to wit, the Aborigenes, Pelasgi, Arcadians, Sicilians, Auruncanes, and Rutilians. And beyond Circeios, the Volscians, Ossians, Ausonians, from whence the name of Latium did reach soone after, as farre as to the river Liris. In the beginning of it standeth Ostia, a Colonie, brought thether and planted by a Roman king: the towne Laurentum, the grove of *Iupiter Indiges*, the river Numicius, and Ardea, built by *Danaë* the mother of *Perseus*. Then the Colonie Antium, sometimes Aphrodisium: Astura, I
the river and the Iland. The river Nymphæus, Clastra Romana Circeij, in times past an Iland, yea, and that verily environned with a mightie sea (if we beleeve *Homer*) but now with a plaine. A wonder it is what we are able to deliver, concerning this thing, to the knowledge of men. *Theophrastus*, who of strangers was the first that writ (any thing diligently) somewhat of the Romans (for *Theopompus*, before whom no man made mention at all, said onely, That the cittie was woon by the Gaules: and *Clitarchus* next after him, spake of nothing els but an embassage sent unto *Alexander*) this *Theophrastus*, I say, upon a better ground and more certainetie now than bare heare say, hath set downe the measure of the Iland Circeij to bee eightie Stadia; in that booke which he wrote to *Nicodorus* the cheefe Magistrate of the Athenians, who lived in the 460 yeer after the foundation of Rome cittie. Whatsoever land therefore above tenne miles compasse li- K
eth neere about it, hath beene annexed to the Iland. But after that, a yeere, another strange and wonderfull thing fell out in Italie: for not farre from Circeij, there is a meere called Pomptina, which *Mutianus*, a man who had beene thrice Consull, reporteth to have beene a place wherin stood 23 cities. Then there is the river Vfens, upon which standeth the towne Tarracina, called in the Volscian tongue Anxur, and where sometime was the cittie Amycle, destroied by serpents. After it is there the place of a cave or peake, the lake Fundanus, and the haven Cajeta. The town Formiæ named also Hormiæ, the auncient seat (as men thought) of the Læstrigones. Beyond it was the towne Pyræ, the Colonie Minturnæ, devided asunder by the river Liris, called Clanius. The utmost frontier towne in this part of Latium laid to the other, is Sinuessa, which as L
some have said, was wont to be called Sinope. Thence commeth to shew it selfe that pleasant and plentifull countrey Campania. From this vale begin the hils full of vineyards, and famous for drunkennesse, proceeding of strong wine and the liquor of the grape, commended so highly in all countries: and (as they were wont to say in old time) there was the exceeding strife betweene father *Liber* and dame *Ceres*. From hence the Setine and Cecubine countries spread forth: and to them joine the Falerne and Calene. Then arise the mountaines, Massici, Gaurani and Surrentine. There the Laborium Champain fields lie along under their feet, and the good Wheat harvest to make fine furmentie for dainties at the table. The sea-coasts here are watered with hote fountaines, and among other commodities throughout all the sea, they beare the name for the rich purple shell fish, and other excellent fishes. In no place is there better or more kind oyle pressed out of the Olive. And in this delight some pleasure of mankind, the Oscians, Grecians, M
Vmbrians, Tuscanes, and Campanes have striven who could yeeld best. In the skirt and edge thereof, is the river Savo, Vulturnum the towne and river both, Liternum, and Cumo inhabited by Chalcidians, Misenum, the haven Bajæ, Baüli, the pooles Lucrinus and Avernus, neere unto which was sometime the towne Cimmerium. Then Puteoli, called also the Colonie Dicæarchia:

After

A After that, the plaines Phlegræi, and the meere or fenne Acherusia neere to Cumes. And upon the very strond by the sea side Naples, a citie also of the Chalcidians, the same that Parthenope, so called of the tombe of a Sirene or Meeremaid: Herculanium, Pompeij: and where not farre off the mountaine Vesuvius overlooketh, and the river Sernus runneth under the territorie of Nuceria, and within nine miles of the sea, Nuceria it selfe. Surrentum with the promontorie of *Minerva*, the seat somtime of the Meeremaids. From the cape Circeij lieth the sea open for saile 78 mile. This is counted the first region of Italie, next to Tibris, according to the description of *Augustus*. Within it are these Colonies, Capua, so called of the Champane country, Aquinum; Suessa, Venafrum, Sora, Teanum, named withall Sidicinum and Nola: the Townes bee, Abellinum, Aricia, Alba Longa, Acerrani, Allifani, Atinates, Aletrinates, Anagnini, Atellani, Asulani,
B Arpinates, Auximates, Avellani, Alfaterni; and they who of the Latine, Hernick, and Labicane territories, are surnamed accordingly: Bovillæ, Calatiæ, Casinum, Calenum, Capitulum, Cernetum, Cernetani, who be called also Mariani. Corani descended from Dardanus the Trojane. Cubulterini, Castrimonienses, Cingulani. Fabienses, and in the mount Albane, Foro-populienses. Out of the Falerne territorie, Frusinates, Ferentinates, Freginates, Fabraterni the old, Fabraterni the new, Ficolenses, Fricolenses, Foro-Appi, Forentani, Gabini, Interramnates, Succasani called also Lirinates, Ilionenses, Lavinij, Norbani, Nementani. Prenestini, whose cittie was in times past named Stephanus, Privernates, Setini, Signini, Suessulani, Telini, Trebutini surnamed Balinienses, Trebani, Tusculani. Verulani, Veliterni, Vlubrenses, Vlvernates: and above also Rome her
C selfe: the *other name wherof to utter, is counted in the secret mysteries of ceremonies an impious & unlawfull thing: which after that it was abolished, and so faithfully observed to right good purpose and for the safetie therof, *Valerius Soranus* blurted out, & soon after abid the smart for it. I thinke it not amisse nor impertinent, to insert here in this very place, an example of the auncient religion instituted especially for this Silence: for the goddesse *Angerona*, whose holiday is solemnly kept with sacrifices the 12 day before the Kalends of Ianuarie, is represented by an Image having her mouth fast tyed and sealed up. This citie of Rome had 3 gates when *Romulus* left it, or rather foure (if we beleeve the most men that write thereof.) The walls thereof, when the two *Vespasians*, Emperors and Censors both, to wit, the father and *Titus* his son, tooke the measure, which was in the yeere after the foundation of it 828, were in circuit * 13 miles and almost a quarter. It containeth within it, seven mountaines, and is divided in 14 regions, and 265 crosse
D streets or carrefours, called Compita Larium. The measure of the same equall space of ground, running from the gilden pillar Milliarium, erected at the head or top of the Rom. Forum, to everie gate, which are at this day 37 in number, so yee reckon once the 12 gates alwayes open, and over-passe 7 of the old, which are no more extant, maketh 30 miles 3 quarters and better by a straight line: but if the measure be taken from the same Milliarium before-said, through the suburbs to the utmost ends of the houses, and take withall the Castra Prætoria, and the pourprise of all the streets, it commeth to somewhat above 70 miles: whereunto if a man put the heigth of the housen, hee may conceive verily by it, a worthy estimate of the excellencie thereof, and confesse that the statelinesse of no citie in the world, could be comparable unto it. Enclosed it is and fenced on the East side, with the banke or rampier of *Tarquinius* the Proud; a wonderfull
E peece of worke as any other, and as excellent as the best: for he raised it full as high as the walles, in that side where the advenue to it was most open and plaine. In other parts, defended it was and fortified with exceeding high walles, or else steepe and craggie hills, but only whereas there are buildings lye out abroad, and make as it were many petie cities. In that first region of Italie there were besides, first for Latium these faire townes of marke, Satricum, Pometia, Scaptia, Pitulum, Politorium, Tellene, Tifata, Cæmina, Ficana, Crustumerium, Ameriola, Medullia, Corniculum, Saturnia, where now Rome standeth. Antipolis, which now is Ianiculum, in one part of Rome: Antemnæ, Camerium, Collatiæ: Amiternum, Norbe, Sulmo: and with these, the States that were wont to receive a dole of flesh in mount Albane, to wit, Albenses, Albani,
F Aesolani, Acienses, Abolani, Bubetani, Bolani, Casuetani, Coriolani, Fidenates, Foretij, Hortenses, Latinenses, Longulani, Manates, Marales, Mutucumenses, Munienses, Numinienses, Olliculani, Octulani, Pedani, Pollustini, Querquetulani, Sicani, Sisolenses, Tolerienses, Tutienses, Vimitellarij, Velienses, Venetulani, Vicellenses. Thus yee see, how of the old Latium, there be 53 States perished and cleane gone, without any token left behind. Moreover, in the Campaine countrey, the towne Stabiæ continued unto the time that *Cn. Pompeius* and *L. Carbo*

were

*Valentia.

*Some read 30.

were Conſuls, even untill the laſt day of Aprill; upon which day, *L. Sylla* a lieutenant in the Allies warre, deſtroyed it utterly: which now at this day is turned into graunges and ferme-houſes. There is decaied alſo there and come to finall ruine, Taurania. There be alſo ſome little relikes left of Caſilinum, lying at the point of the laſt gaſpe. Moreover *Antias* writeth, that Apiolæ a towne of the Latines, was woon by *L. Tarquinius* the king, with the pillage whereof he began to found the Capitoll. From Surrentum, to the river Silarus, the Picentine countrey lay for the ſpace of 30 miles, renowmed for the Tuſcanes goodly temple built by *Iaſon* in the honor of *Iuno Argiva*. Within it, ſtood the townes Salernum, and Picentia. At Silarus, the third region of Italy, beginneth together with the Lucane and Brutian countries: and there alſo the inhabitants chaunged not a few times. For held and poſſeſſed it was by the Pelaſgi, Oenotri, Italy, Morgetes, Sicilians, people all for the moſt part of great Greece: and laſt of all by the Lucanes deſcended from the Samnites, who had to their leader and governour, *Lucius*. In which, ſtandeth the towne Pæſtum, called by the Greekes Poſidonia: the Firth or creeke Pæſtanus, the town Helia, now Velia. The promontorie Palinurum, from which creeke retired within-forth, there is a direct cut by water to the columne Rhegia, 100 miles over. Next unto this, the river Melphes runneth: alſo there, ſtandeth the towne Buxentum, in Greeke Pyxus, and hard by is the river Laus: a towne there was likewiſe of the ſame name. And from thence beginneth the ſea-coaſt of Brutium, where is to be ſeene the towne Blanda, the river Batum, the haven Parthenius belonging to the Phocæans: the Firth Vibonenſis, the grove Clampetia, the towne Temſa, called of the Greeks Temeſe: and Terina held by the Crotonians, and the mightie arme of the ſea, called the gulfe Terinæus: the towne Conſentia. Within-forth in a demie yland, the river Acheron, whereof the townes-men are called Acherontium. Hippo, which now we call Vibovalentia; the Port of *Hercules*, the river Metaurus, the towne Taurentum, the haven of Oreſtes, and Medua: the towne Scylleum, the river Cratais, mother (as they ſay) to Scylla. Then after it, the columne Rhegia: the Sicilian ſtreights or narrow ſeas, and two capes one over-againſt the other; namely, Cænis from Italie ſide, and Pelorum from Sicilie, having a mile and a halfe betweene them: from whence to Rhegium is 12 miles and a halfe: and ſo forward to a wood in the Apennine, called Sila; and the promontorie or cliffe called Leucopetra, 12 myles off. From which, Locri (carrying the name alſo of the promontorie Zephyrium) is from Silarus diſtant 303 miles. Here is determined the firſt gulfe of Europe, wherein be named theſe ſeas. Firſt, Atlanticum (from which the Ocean ſea breaketh in) called of ſome Magnum: the paſſage whereas it entreth, is of the Greekes called Porthmos; of us, Fretum Gaditanum, *i.* [The ſtreights of Gebraltar] when it is once entred the Spaniſh ſea, ſo farre as it beateth upon the coaſts of Spaine: Of others, Ibericum, or Balearicum: and anon it taketh the name of Gallicum, or the French ſea, right before the province Narbonenſis: and after that, Ligufticum: from whence all the way to the Iland Sicilie, it is called Tuſcum; which ſome of the Græcians tearme Notium, others Tyrrhenum, but moſt of our countrymen Inferum, *i.* [The nether ſea.] Beyond Sicilie as farre as to the Saleſtines, *Polybius* calleth it Auſonium: but *Eratoſthenes* nameth all the ſea Sardonum, that is betweene the mouth of the Ocean and Sardinia: and from thence to Sicilie, Tyrrhenum: and from it as farre as to Creta, Siculum: from which it is hight Creticum. The Ilands diſcovered along theſe ſeas, were theſe: The firſt of all, thoſe which the Greekes named Pityüſæ, of the Pine ſhrub or plant; but now, Ebuſus: they are both a State confederate, and a narrow arme of the ſea runneth betweene them: they are 42 miles over. From Dianeüm, they lye 70 ſtadia: and ſo many are there, betweene Dianeum and Carthage, by the maine land: and as much diſtance from Pityuſæ into the maine Ocean, lye the two Baleare Ilands; and toward Sucro, Colubraria. Theſe Baleares in their warre-ſervice uſe much the Sling; and the Greeks name them Gymneſiæ. The bigger of them is an hundred miles in length, and in circuit 380. Townes it hath of Romane citizens, Palma and Pollentia: of Latines, Cinium and Cunici: as for Bochri, it was a towne confederate. From it, the leſſer is thirtie miles off, taking in length 60 miles, and in compaſſe 150. Cities in it, be Iamno, Saniſera, and Mago. From the bigger 12 miles into the ſea, lieth the Ile Capraria, which lieth in wait for all ſhipwrack: and over-againſt the citie Palma, Menariæ, and Tiquadra, and little Annibalis. The ſoile of Ebuſus chaſeth ſerpents away, but that of Colubraria, breedeth them: and therfore dangerous it is for all that come into it, unleſſe they bring with them ſome of the Ebuſian earth. The Greekes call this Iland, Ophiuſa. Neither doth Ebuſus breed any Conies; which are ſo common in the Baleares, that they eate up their corne.

There

A There be as it were 20 more little ones among the shelves of the sea. Now in the maritime coast of Gallia in the very mouth of Rhodanus, there is Metina; and soone after, that which is called Blascon; and the three Stœchades, called so of their neighbours the Massilians, for the order and ranke wherein they stand; and they give them every one a severall name, to wit, Prote, Mese, (which also is called Pomponiana) and the third, Hypea. After them, are Sturium, Phœnice, Phila, Lero, & Lerina over-against Antipolis; wherein also is a token or memoriall of the town Vergaonum.

Chap. VI.

Of Corsica.

B IN the Ligurian sea, is Corsica the yland, which the Greekes called Cyrnos, but nearer it is to the Tuscane sea: it lyeth out from the North into the South, and containeth in length an hundred and fiftie miles: in breadth for the more part it beareth fiftie: in circuit 322: distant it is from the Washes or Downes of Volaterræ 62 miles. Cities it hath 35: and these colonies, to wit, Mariana, planted there by *C. Marius*: Aleria, by Dictatour *Sylla*. On this side of it, is Oglasa; but within 60 miles of Corsica, there is Planaria, so called of the forme thereof, so flat it is and levell with the sea; and therefore deceiveth many a ship that runneth aground upon it. Bigger than it are Vrgo and Capraria, which the Greekes called Ægilos. In like manner Ægi-
C lium and Dianium, the same that Artemisia, both lying over-against the coast Cosanum. Other small ones also, as Mænaria, Columbrarie, Venaria, Ilua, with the yron mines, in circuit a hundred miles (ten miles from Populonia) called of the Greekes, Æthalia: from it is Planasia 39 miles off. After them, beyond the mouthes of Tybre in the Antian creeke, is Astura, and anon Palmaria, Sinonia, and just against Formiæ, Pontiæ. But in the Puteolane gulfe, Pantadaria and Prochyta, so called, not of *Aeneas* his nource, but because it was broken off by the gushing betweene of the sea from Ænaria. Ænaria it selfe tooke that name of *Aeneas* his ships that lay in rode there, called by *Homer* Inarime, of the Greekes Pithecusa, not for the number of Alps there, as some have thought, but of the worke houses and furnaces of potters that made earthen vessels, as tunnes and such like, to furnish Italie with. Betweene Pausilypus and Naples, Me-
D garis; and soone after, eight miles from Surrentum, Capreæ, renowmed for the castle there of prince *Tyberius*; and it beareth in compasse foure hundred miles. Anon you shall see Leucothea: but without your kenning, lyeth Sardinia fast upon the Africke sea, but lesse than nine miles from the coast of Corsica: and still those streights are made more narrow by reason of small ylands, named Cuniculatiæ. Likewise Phintonis and Fossæ, whereof the very sea it selfe is named Taphros.

Chap. VII.

Of Sardinia.

E SArdinia on the East side beareth 188 miles, on the West 170, Southward 74, and Northward 122: so that in all, it taketh up the compasse of 560 miles. It is from the Cape of Caraleis to Africke 200 miles: from Gades it is distant 14 hundred miles. It hath two ylands on that side where the promontorie Gorditanum standeth, which be called *Hercules* ylands: of Sulsenses cape side, Enosis; of Caralitanum, Ficaria. Some set not farre from it the ylands Belerides, and Collodes: and another which they call Heras Lutra, *i. Iunoes* laver, or Hieraca. The States of greatest name therein, be the Ilienses, Balari, and Corsi: and of the foure townes, the chiefe are inhabited by the Sulcitanes, Valentines, Neapolitanes, Bosenses, and Caralitani who are Romane enfranchised citizens, and Norenses. One colonie there is in it and no more, which is called, Ad Turrim Libysonis. This yland Sardinia, *Timæus* called (of the fashion of a shoe or
F slipper) Sandaliotis: but *Myrsylus*, for the resemblance of a footes step, Ichnusa. Over-against the creeke Pæstanum, there is Leucasia, called so of a Meremaid or Sirene there buried. Against Vestia, there lye Pontia and Issia, both joyntly called by one name Oenotides; a good presumption and argument that Italie was possessed by the Oenotrians. And against Vibo, other little ones, called Ithacesiæ, the watch townes of *Vlysses*.

Chap. VIII.

of Sicilie.

BVt Sicilie excelleth all other of theſe Ilands, named by *Thucydides* Sicania; by many, Trinacria, or Triquetra of the triangle forme. It is in circuit (as *Agrippa* ſaith) 198 miles. In time paſt it grewe to the Brutians countrey, but ſoone after by the guſhing of the ſea between, it was plucked from it, and left a Firth of 12 miles in length, and one and a halfe in bredth, neere unto the columne Rhegium. Vpon this occaſion of opening and cleaving in twaine, the Greekes gave name to the towne Rhegium, ſituate in the edge of Italie. In this narrow ſea there is a rocke called Scylla, and likewiſe another named Charybdis: the ſea is full of whirle-pits, and both thoſe rockes are notorious for their rage and miſchiefe. The utmoſt Cape or fore-land of this Iland Triquetra (as we have ſaid) is called Pilorus, bending againſt Scylla toward Italie. As for Pachynum, it lyeth toward Græcia, and from it is Peloponneſus diſtant 144 miles. Lilibæum butteth upon Africke, and between it and the cape of *Mercurie* there be 180 miles: and from the ſaid Lilybæum to the Cape of Caraleis in Sardinia 120. Now theſe points and promontories lye aſunder one from the other in this diſtance. By land from Pelorus to Pachynum, 166 miles: from thence to Lilybæum 200 miles: ſo forward to Pelorum 170. In it, of colonies, townes, and cities, there be 72. From Pelorum ſide, which looketh toward the Ionian ſea, ye have the towne Meſſana, inhabited by enfranchiſed Romane citizens, and they be called Mamertini. Alſo the cape Drepanum, the colonie Tauromínium, called before-time Naxos; the river Aſines, the mountaine Ætna, miraculous for the fires there in the night ſeaſon; the hole or open chinke in the top of it is in compaſſe two miles and a halfe; the imbers and ſparkling aſhes therof, flie hot as farre as to Tauromínium and Catana: but the cracking noiſe thereof may be heard as farre as to Maron, and the hilles Gemellis. In this Iland there be alſo the three rockes of the Cyclopes, the port of *Vlyſſes*, the colonie Catanæ, the rivers Symethum and Terias: within the Ile by the plaines and champian fields, Læſtrigonij. The towns are theſe, Leontini, and Megaris: and in it is the river Pantagies: alſo the colonie Syracuſæ, together with the fountaine Arethuſa. Albeit there be other ſprings alſo in the territorie of Syracuſa, that yeeld water for drinke, to wit, Temenitis, Archidemia, Magæa, Cyane, and Milichre. Moreover, the haven Nauſtathmos, the river Elorum, the promontorie Pachynum: and on this front of Sicilie, the river Hirminium, the towne Camarina, the river Helas, and towne Acragas, which our countreymen have named Agrigentum. The colonie Thermæ: rivers, Atys and Hypſa: the towne Selinus: and next to it the cape Lilybæum, Drepana, the hill Eryx. Townes there be, Panhormum, Solus, Hymetta with the river, Cephalœdis, Aluntium, Agathirium, Tyndaris a colonie, the towne Mylæ, and whence we began Pelorus. Within-forth, of Latine condition and burgeoiſie, the Centuripines, Netines, and Segeſtines. Tributaries, Aſſarines, Ætnenſes, Agyrines, Aceſtæi, and Acrenſes: Bidini, Citarij, Caciritani, Drepanitani, Ergetini, Eceſtienſes, Erycini, Eutellini, Etini, Enguini, Gelani, Galatani, Haleſines, Ennenſes, Hyblenſes, Herbitenſes, Herbeſſenſes, Herbulonſes, Halicyenſes, Hadranitani, Imacarenſes, Ichanenſes, Ietenſes, Mutuſtratini, Mageſſini, Murgentini, Mutyenſes, Menanini, Naxij, Nocæni, Pelini, Paropini, Phinthienſes, Semellitani, Stherrini, Selinuntij, Symætij, Talarenſes, Tiſſinenſes, Triocalini, Tiracienſes, Zanchæi belonging to the Meſſenians in the ſtreights of Sicilie. Ilands there be bending to Africke, Gaulos, Melita, from Camerina 84 miles, and from Lilybæum 113: Coſyra, Hieroneſus, Cæne, Galata, Lopaduſa, Æthuſa, which others have written Æguſa, Bucina, and 75 myles from Solus, Oſteodes: and againſt the Paropini, Vſtica. But on this ſide Sicilie over-againſt the river Metaurus, 12 miles well-neare from Italie, 7 others called Æoliæ. Theſe very ſame Ilands belonged ſometimes to the Liparæans, and of the Greeks were called Hephæſtiades, and of our men Vulcaniæ, likewiſe Æoliæ, becauſe *Aeolus* reigned there in the time that Ilium flouriſhed, and about the Trojan war.

Chap. IX.

of Lipara.

LIpara with a towne of Romane citizens, called ſo of king *Liparus*, who ſucceeded *Aeolus*, but before-time Melogonis or Meligunis, is 12 myles from Italie, and is it ſelfe ſomewhat leſſe in circuit. Betweene this and Sicilie there is another, ſometime named Theraſia, now Hiera,

A Hiera, becauſe it is conſecrated to *Vulcan*, wherin there is a little hill that belcheth and caſteth up flames of fire in the night. A third there is alſo, named Strongyle, a mile from Lipara, lying toward the ſunne-riſing (wherein *Aeolus* reigned) and differeth from Lipara onely in this, that it ſendeth foorth more cleere flames of fire: by the ſmoke thereof, the people of that countrey will tell (by report) three dayes before-hand what winds will blow: whereupon it is commonly thought, that the winds were obedient to *Aeolus*. A fourth there is beſides, named Didyme, leſſe than Lipara: and a fift, Ericuſa: a ſixt, Phœnicuſa, left to feed the reſt that are next to it: the laſt and leaſt is Euonymus. And thus much concerning the firſt gulfe that divideth Europe.

Chap. X.

B

Of Locri, the frontier towne of Italie.

AT Locres beginneth the front or forepart of Italie, called Magna Græcia, retiring it ſelfe into three creekes of the Auſonian ſea, becauſe the Auſones firſt inhabited thereby. It extendeth 82 miles, as *Varro* teſtifieth. But the greater number of writers have made but 72. In that coaſt there bee rivers without number. But thoſe things which are worth the writing off neere unto Locres, be theſe, Sagra the river, and the reliques of the towne Caulon: Myſtia, the caſtle Conſilium, Cerinthus, which ſome thinke to be the utmoſt promontorie of Italie, bearing fartheſt into the ſea. Then followeth the creeke or gulfe Scylacenſu, and that which was called by the Athenians when they built it, Scylletium. Which place, another creeke Terinæus, meeting with, maketh a demie Iſland: in which, there is a port towne called Caſtra Annibilis: and in no
C place is Italie narrower, being but twentie mile broad. And therefore *Dionyſius* the elder would have there cut it off quite from the reſt, and laid it to Sicilie. Rivers navigable there be theſe, Cæcinos, Crotalus, Semirus, Arocha, Targines. Within forth is the towne Petulia, the mountaine Alibanus, and promontorie Lacinium: before the coaſt whereof there is an Iſland tenne miles from the land, called Dioſcoron, and another Calypſus, which *Homer* is ſuppoſed to have called Ogygia. Moreover, Tyris, Eranuſa, Meloeſſa. And this is ſeventie miles from Caulon, as *Agrippa* hath recorded.

Chap. XI.

D

The ſecond Sea of Europe.

FRom the promontorie Lacinium beginneth the ſecond ſea of Europe: it taketh a great winding and compaſſe with it, and endeth at Acroceraunium, a promontorie of Epirus, from which it is ſeventie miles diſtant. In which, there ſheweth it ſelfe the towne Croto, and the river Næthus. The towne Thurium betweene the two rivers, Arathis and Sybaris, where there was a towne of the ſame name. Likewiſe, between Siris and Aciris there ſtanderh Heraclea, ſometime called Siris. Rivers, Acalandrum, Maſuentum: the towne Metapontum, in which the third region of Italie taketh an end. The Inlanders be of the Brutians, the Apruſtanes only: but of Lucanes, Thoatinates, Bantines, Eburines, Grumentines, Potentines, Sontines, Sirines, Sergilanes,
E Vrſentines, Volcentanes, unto whom the Numeſtranes are joined. Beſides all theſe, *Cato* writeth, That Thebes of the Lucanes, is cleane deſtroied and gone. And *Theopompus* ſaith, That Pandoſia was a cittie of the Lucanes, wherein *Alexander* king of the Epirotes, was ſlaine. Knit hereunto is the ſecond region or tract of Italie, containing within it the Hirpines, Calabria, Apulia, and the Salentines within an arme of the ſea, in compaſſe 250 miles, which is called Tarentinus of a towne of the Laconians, ſituate in the inmoſt nouke or creeke hereof: and to it was annexed and lay the maritine colonie which there was. And diſtant it is from the promontorie Lacinium 136 miles, putting forth Calabria like a demie Iſland againſt it. The Greekes called it Meſſapia of their captaines name, and beforetime, Peucetia, of *Peucetius*, the brother of *Oenotrus*. In the Salentine countrey betweene the two promontories, there is a hundred miles diſtance. The bredth
F of this demie Iſland, to wit, from Tarentum to Brindis (if you goe by land) is two and thirtie miles, but farre ſhorter if you ſaile from the Haven or Bay Saſina. The townes in the Continent from Tarentum, bee Varia, ſurnamed Apula, Ceſſapia and Aletium. But in the coaſt of the Senones, Gallipolis, now Auxa, 62 miles from Tarentum. Two and thirtie miles off is the promontorie which they call Acra Iapygia, and here Italie runneth fartheſt into the ſea. Then

is there the towne Basta, and Hydruntum in the space of nineteene miles, to make a partition betweene the Ionian and the Adriaticke seas, through which is the shortest cut into Greece overagainst the towne Apollonia, where the narrow sea running betweene, is not above fiftie miles over. This space betweene, *Pyrrhus* king of Epirus, was the first, that intending to have a passage over on foot, thought to make bridges there: after him *M. Varro*, at what time as in the Pyrates warre he was Admirall of *Pompeies* fleet. But both of them were let and stopped with one care or other besides. Next to Hydrus, there is Soletum, a cittie not inhabited: then, Fratuertium: the haven Tarentinus, the garrison towne Lupia, Balesium, Cælium, Brundusium fifteene miles from Hydrus, as much renowmed as any towne of Italie for the haven, for the surer sailing, although it bee the longer, and the cittie of Illyricum Dyrrhagium is readie to receive the ships: the passage over is 220 miles. Vpon Brundusium bordereth the territorie of the Pædiculi. Nine young men there were of them, and as many maids, descended from the Illyrians, who begat betweene them thirteene nations. The townes of these Pædiculi, be Rhudia, Egnatia, Barion, beforetime Iapyx of *Dedalus* his sonne, who also gave the name to Iapygia. Rivers, Pactius and Ausidus issuing out of the Hirpine mountaines, and running by Canusium. Then followeth Apulia of the Daunians, surnamed so of their leader, father in law to *Diomedes*. In which is the towne Salapia, famous for the love of an harlot that *Annibal* cast a fancie unto; then, Sipontum and Vria: also the river Cerbalus, where the Daunians take their end: the port Agasus, the cape of the mountaine Garganus, from Salentine or Iapygium 234 miles, fetching a compasse about Garganus: the haven Garnæ, the lake Pantanus. The river Frento, full of Baies and Havens, and Teanum of the Apulians. In like manner also, Larinum, Aliternia, and the river Tifernus. Then commeth in the region Frentana. So there be three kinds of nations, Teani, of their leader, from the Greekes: the Lucanes subdued by *Calchas*, which quarters now the Atinates hold and occupie. Colonies of the Daunians besides the abovenamed, Luceria and Venusia: townes, Canusium, Arpi, sometime Argos Hippium, builded by *Diomedes*, but soon after called Argyrippa. There *Diomedes* vanquished and destroied the whole generation of the Monadians and Dardians, together with two citties, which grew to a merry jeast by way of a by-word, Apina and Trica. The rest be more inward in the second region, to wit, one Colonie of the Hirpines called Beneventum, chaunged into a more luckie name, whereas in times past it was cleaped Maleventum: the Æculanes, Aquilonians, and Abellinates, surnamed Protropi: the Campsanes, Caudines, and Ligurians surnamed Cornelians: as also Bebianes, Vescellanes, Deculanes, and Aletrines: Abellinates surnamed Marsi, the Atranes, Ænanes, Asellanes, Attinates, & Arpanes: the Borcanes, the Collatines, Corinenses: and famous for the overthrow of the Romanes there, the Cannians: the Dirines, the Forentanes, the Genusines, the Hardonians and Hyrines: the Larinates surnamed Frentanes, the Metinates, and out of Garganus the Mateolanes, the Neritines, and Natines, the Rubustines, the Sylvines & Strapellines, the Turmentines, the Vibinates, Venusines, and Vlurtines. Now the In-landers of the Calabrians, the Ægirines, Apanestines and Argentines. The Butuntines and Brumbestines, the Decians, the Norbanes, the Palions, Sturnines, and Tutines. Also of Salentine midlanders, the Aletines, Basterbines, Neretines, Valentines, and Veretines.

Chap. xii.

The fourth Canton or region of Italie.

NOw followeth the fourth region, even of the most hardie and valiant nations of all Italie. In the coast of the Frentanes, next to Tifernus, is the river Tirinium, full of good havens and harbours. The towns there, be Histonium, Buca, and Ortona, with the river Aternus. More within the countrey, are the Anxanes surnamed Frentanes: the Carentines, both higher and lower, the Lanuenses: of Marrucines, the Teatines: of Pelignians, the Corfinienses, Super-Æquani and Sulmonenses: of Marsians, the Anxantines and Atinates, the Fucentes, Lucentes, and Maruvij: of Albenses, Alba upon the lake Fucinus: of Æquiculanes, the Cliternines and Carseolanes: of Vestines, the Augulanes, Pinnenses, Pelevinates, unto whom are joined the Aufinates on this side the mountaines: of Samnites, whom the Greekes called Sabellians and Saunites, the Colonie Bovianum, the old; and another surnamed Vndecumanorum, namely, inhabited by those of the eleventh legion: the Ausidenates, Esernines, Fagisulani, Ficolenses, Sepinates,

A nates, Treventinates: of Sabines, the Amiternines, Curenſes, Forum Decij, Forum-Novum, the Fidenates, Interamnates, Nurſines, Nomentanes, Reatines, Trebulanes, who are ſurnamed Mutuſcæi, as alſo Suffenates, the Tiburtes, and Tatinates. In this quarter of the Æquiculæ there be periſhed and gone the Comines, Tadianes, Acedikes, and Alfaterni. *Gellianus* writeth, That Acippe, a towne of the Marſians, built by *Marſyas* a captaine of the Lydians, was drowned and ſwallowed up by the Lake Fucinus. Alſo *Valerianus* reporteth, that a towne of the Vidicines in Picenum, was utterly deſtroied by the Romanes. The Sabines, as ſome have thought, were for their religion and devout worſhipping of the gods called Sevini: they dwell hard by the Veline Lakes upon moiſt and dewie hils. The river Nar draineth them drie with his hote waters of brimſtone. Which river running from thence toward Tiberis, filleth it: and gliding from the hill Piſ-
B cellus, neer unto the groves of Vacuna and Reate, is hidden in the ſame. But from another ſide, the river Anio, beginning in the mountaine of the Trebanes, bringeth with it into Tiberis three Lakes of great name, for their delectable pleaſantneſſe, which gave the name to Sublaquenſu. In the Reatine territorie there is the Lake Cutiliæ, wherein there floteth an Iſland: and this Lake *M. Varro* ſaith, is the very middeſt and centre of Italie. Beneath the Sabines, lieth Latium; on the ſide, Picenum; behind, Vmbria; and the hils of the Apennine on either hand, doe encloſe as with a rampier, the Sabines.

Chap. XIII.

The fift region.

C THe fifth region is Picene, a nation in times paſt moſt populous, 360000 of the Picentes were reduced under the protection of the people of Rome. They are deſcended from the Sabines, upon a vow that they made to hold and ſolemniſe a ſacred Spring. They dwelt by the river Aternus, where now is the territorie Adrianus, and the Colonie Adria, ſeven miles from the ſea. There runneth the river Vomanum and there lieth the Prætutiane and Palmenſis: territories. *Item*, Caſtrum Novum, the river Batinum, Truentum with the river; which is the onely relique of the Liburnians remaining in Italie. More rivers there bee, to wit, Alpulates, Suinum, and Helvinum, at which the Prætutian countrey endeth, and the Picentian beginneth. The town Cupra, a caſtle of the Firmanes, and above it the Colonie Aſcuum, of all Picenum the moſt re-
D nowmed. Within ſtandeth Novana. In the edge or marches without, are Cluana, Potentia, and Numana, built by the Sicilians. Next to thoſe is the Colonie Ancona, with the Promontorie Cumerum lying hard unto it, in the very elbow of the edge thereof as it bendeth, and it is from Garganus 183 miles. Within-forth there do inhabite the Auximates, Beregranes, Cingulanes, Cuprenſes ſurnamed the Mountainers, Falariens, Pauſulanes, Pleninenſes, Ricinenſes, Septempedani, Tollentinates, Triacenſes, the cittie Salvia, and the Tollentines.

Chap. XIIII.

The ſixt region.

E TO theſe adjoineth the ſixt region, comprehending Vmbria, and the French pale about Ariminum. At Ancona begin the French marches, by the name of Togata Gallia. The Sicilians and Liburnians poſſeſſed moſt parts of that tract, and principally the territories, Palmenſis, Prætutianus, and Adrianus. Them, the Vmbrians expelled: theſe againe Hetruria drave out: and laſt of all, the Gaules diſſeiſed it. The people of Vmbria are ſuppoſed, of all Italie to bee of greateſt antiquitie, as whom men thinke to have beene of the Greekes named Ombri, for that in the generall deluge of the countrey by raine, they onely remained alive. The Tuſcanes are knowne to have by warre forced and woon three hundred townes of theirs. At this day in the frontier of it, there are the river Æſus, and Senogallia: the river Metaurus, and the Colonie Fa-
F num Fortunæ. Piſaurum alſo with the river. In the parts within, Hiſpellum and Tuder. In the reſt, the Amerines, Attidiates, Aſirinates, Arnates, and Æſinates. Camertes, Caſventillanes, and Carſulanes, Dolates, ſurnamed Salentines, Fulginates, Foro-flaminienſes, Foro-Iulienſes, named alſo Concubienſes, Foro-bremitiani, Foro-Sempronienſes, Iguini, Interamnates, ſurnamed Nartes, Mevanates, Mevanienſes, and Matilicates, Narnienſes, whoſe towne beforetime was called Nequinum. Nucerines, ſurnamed Favonienſes and Camelani. The Otriculanes, and Oſtranes.

The Pitulanes with the addition of Piſuertes, as alſo others ſurnamed Mergentines, and the Pe- G
leſtines, Sentinates, Sarſinates, Spoletines, Suarranes, Seſtinates, and Suillates, Sadinates, Tre-
biates, Tuficanes, Tifernates, named withall Tribertines, as alſo other of them diſtinguiſhed by
the name of Metaurenſes. The Veſionicates, the Vrbinates, as well they that bee ſurnamed Me-
taurenſes, as others Hortenſes, the Vettionenſes, Vindenates and Viventanes. In this tract there
are extinct the Felignates, and they who poſſeſſed Cluſiolum above Interamna: alſo the Sarra-
nates, with the townes Acerræ, called beſides Vafriæ, and Turceolum, the ſame that Vetriolum.
Semblably the Solinates, Suriates, Fallienates, Apiennates. There are gone likewiſe and cleane
loſt the Arienates with Crinovolum, alſo the Viſidicanes and Plangenſes, the Piſinates and Cæ-
leſtines. As for Amera above written, *Cato* hath left in record, That it was built 964 yeeres before
the warre againſt *Perſeus*. H

Chap. XV.

The eight region.

THe eight region is bounded with Ariminum, Padus, and Apennine. In the borders thereof
is the river Cruſtuminum, the colonie Ariminum, with the rivers Ariminum and Apruſa.
Then the river Rubico, the utmoſt limit ſometime of Italie. After it, Sapis the river, Vitis
and Anemo, Ravenna a towne of the Sabines with the river Bedeſes, 102 miles from Ancona.
And not farre from the Vmbrians ſea, Butrium. Within-forth are theſe Colonies, Bononie uſu-
ally called Felſina, when it was the head cittie of Hetruria, Brixillum, Mutina, Parma, Placentia. I
Townes, Cæſena, Claterna, Forum-Clodij, Livij and Popilij, pertaining to the Truentines: alſo
[Forum] the Cornelij, Laccini, Faventini, Fidentini, Oteſini, Padinates, Regienſes a Lepido, So-
lonates: alſo the forreſts Galliani ſurnamed Aquinates, Tanetani, Veliates ſurnamed Vecteri,
Regiates and Vmbranates. In this tract the Boij are conſumed, who had 112 tribes or kinreds, as
Cato maketh report. Likewiſe the Senones, they that tooke Rome.

Chap. XVI.

Of the river Padus.

PAdus iſſuing out of the boſome of the mountaine Veſulus, bearing up his head aloft into K
a mightie heigth, runneth from a marvailous ſpring worth the ſeeing, in the marches of
the Ligurian Vagienni; and hiding it ſelfe within a narrow trench, as it were, under the
ground, and riſing up againe in the territorie of the Forovibians, is inferiour to no other rivers
for excellencie. Of the Greekes, called it was Eridanus, and is much ſpoken of and well knowne,
for the puniſhment of *Phaëton*. It ſwelleth about the riſing of the Dog-ſtarre, by reaſon that
the ſnow is then thawed: more unruly and rough unto the fields thereby, than to the veſſels upon
it: howbeit, nothing ſtealeth it and carryeth away as his owne, but when hee hath left the fields,
his bountie is more ſeene by their plenty and fruitfulneſſe: from his head, hee holdeth on his
courſe 90 miles wanting twaine, above three hundred. In which paſſage of his, he taketh in un- L
to him, not onely the navigable rivers of the Apennine and the Alpes, but huge maine lakes al-
ſo that diſcharge themſelves into him: ſo as in all he carryeth with him into the Adriaticke ſea,
to the number of 30 rivers. The chiefe and moſt notorious of all them, are theſe, ſent out of the
ſide of Apennine; Tanarus, Trebia, Placentine, Tarus, Nicia, Gabellus, Scultenna, Rhenus.
But running out of the Alpes, Stura, Morgus, Duriæ twaine, Seſſites, Ticinus, Lambrus, Ad-
dua, Olius, and Mincius. And there is not a river againe, that in ſo little a way, groweth to a grea-
ter ſtreame: for over-charged it is and troubled with the quantitie of water, and therefore wor-
keth it ſelfe a deepe channell, heavie and hurtfull to the earth under it, although it be derived
and drawne into other rivers and goles, betweene Ravenna and Ativum, for 120 miles: yet be-
cauſe he belcheth and caſteth them out from him in ſo great abundance, he is ſaid to make ſeven
ſeas. Drawne he is to Ravenna by a narrow channell, where he is called Baduſa, and in times paſt M
Meſſanicus. But the next mouth that he maketh, carryeth the bigneſſe of an haven, which is na-
med Vatreni: at which *Claudius Cæſar* as hee came triumphant out of Britaine, entred into A-
dria, with that huge veſſell, more like a mighty great houſe than a ſhip. This mouth of it was be-
foretime called Eridanum: of others, Spineticum of the citie Spinæ neere-by, built by *Diomedes*

(as

A (as some thinke) with the treasures of Delphi. There the river Vatrenus from out of the territory of Forum Cornelij, encreaseth Padus. The next mouth that it hath, is Capratiæ, then Sagis, and so forth Volane, which before-time was named Olane. All those rivers and trenches aforesaid, the Tuscanes began to make first out of Sagis, carrying the forcible streame of the river a crosse into the Atrian meeres, which are called the seven seas, and made the famous haven of Atria a towne of the Tuscanes; of which the Adriaticke sea tooke the name afore-time, which now is called Adriaticum. From thence are the full mouthes there of Carbonaria and the Fosses Phyliſtinæ, which others call Tartarus, but all spring out of the overflowing of the Fosse Phyliſtina, holpen with Athesis comming out of the Tridentine Alpes, and Togisonus out of the territorie of the Padovans. Part of them made also the next port Brundulum: like as the two
B Medoaci and the Fosse Clodia, make Edron. With these Padus mingleth it selfe, and by these he runneth over, and as it is said by most Writers, like as in Ægypt Nilus maketh that which they call Delta, so it shapeth a triangle figure between the Alpes and the sea coast, two miles in compasse. A shame it is to runne to the Greekes for to borrow of them the Etymologie and reason of any things in Italy: howbeit *Metrodorus Scepsius* saith, That forasmuch as about the spring and head of this river there grow many pitch trees, called in French Pades, therfore it tooke the name Padus. Also, that in the Ligurian language, the river it selfe is called Bodincus, which is as much to say, as bottomlesse. And to approove this reason and argument, there is a towne therby called Industria, but by an old name Bodincomagum, where in very deed, beginneth the greatest deapth thereof.

C

Chap. xvii.

Italie beyond Padus, the eleventh Region.

NExt to it, is the Region called Transpadana, and the eleventh in number: all whole in the mid-land part of Italy, into which the seas bring in all things with fruitfull channell. The townes therein, be Vibi-Forum, and Segusta. The colonies at the foot of the Alpes, Augusta of the Taurines, an auncient descent from the Ligurians: from whence Padus is navigable. Then, Augusta Prætoria, of the Salassi, neere unto the two-fold gullets or passages of the Alpes, to wit, Graijæ and Peninæ: for men say, that the Carthaginians came through the one, and *Hercules* in at the other, named Graijæ. There standeth the towne Eporedia, built by the people of
D Rome, by direction and commaundement out of the bookes of *Sibylla*. Now the Gauls in their tongue call good horse-breakers Eporedicæ. Also, Vercella of the Lybici, descended from the Sallij: Novaria, from the Vertacomacores: which even at this very day is a village of the Vocontij, and not as *Cato* thinketh, of the Ligurians: of whom, the Levi and Marici built Ticinum, not farre from Padus: like as the Boij comming over the Alpes, founded Laus Pompeia; and the Insubrians, Millaine. That Comus and Bergomus, yea and Licini-Forum, with other nations thereabout, were of the Orobian race, *Cato* hath reported: but the first beginning and originall of that nation of Orobians, he confesseth, that he knoweth not. Which notwithstanding *Cornelius Alexander* sheweth to have descended from the Greekes; and this he guesseth by the
E interpretation of their name, which signifieth, Men living in mountaines. In this tract, Barra a towne of the Orobians is cleane destroyed; from whence, *Cato* saith, the Bergomates tooke their beginning; bewraying even by their name, that they were seated more highly than happily. There are cleane gone and consumed also the Caturiges, banished persons of the Insubrians: likewise Spina, before-named. In like sort, Melpum, a towne of speciall importance for wealth; which (as *Nepos Cornelius* hath written) was by the Insubrians, Boians, and Senones, rased on that very day, on which *Camillus* forced Veij.

Chap. xviii.

F

Venice, the tenth Region.

NOw followeth the tenth region of Italy, Venice, lying fast upon the Adriaticke sea: the river whereof Silis, commeth foorth of the mountaines Taurisani: wherein also, is the towne Altinum, the river Liquentia issuing from the mountaines Opitergeni; a haven of the same name: the colonie Concordia. Rivers and havens, to wit, Romatinum, Tilaventum,

the

the greater and the leſſe: Anaſſum, whereunto Varranus runneth downe: Alſa, Natiſo, with Turrus, running faſt by Aquileia, a colonie ſituate 12 miles from the ſea. This is the region of the Carni, joyning unto that of the Iapides: the river Timavus, and the caſtle Pucinum, ſo famous for good wine. The vale and Firth Tergeſtinus, taking name of the Colonie Tergeſte, 23 myles from Aquileia: beyond which ſixe miles, is the river Formio, 189 miles from Ravenna: the ancient bound or limit of Italy enlarged: but at this day of Iſtria, which was ſo named of the river Iſter, flowing out of the river Danubius into Adria: and over-againſt the ſame Iſter, the gullet or mouth of Padus alſo entreth thither: by the contrary ruſhing ſtreames of which two rivers, the ſea between both, beginneth to be more mild; as many Authors have reported, but untruly: and *Cornelius* Nepos alſo, although hee dwelt juſt by Padus: for there is no river that runneth out of Danubius into the Adriaticke ſea. Deceived (I ſuppoſe) they were, becauſe the ſhip Argos went downe a river into the Adriaticke ſea, not farre from Tergeſte; but what river it was, is yet unknowne. They that will ſeeme to be more curious than their fellowes, ſay, That it was carried upon mens ſhoulders over the Alpes: and that it was ſet into Iſter, and ſo into Saus, and then Nauportus (which upon that occaſion tooke his name) which ariſeth betweene Æmona and the Alpes.

Chap. xix.

Of *Iſtria*.

ISTria runneth out like a demie Iland. Some have delivered in writing, that it is 40 miles broad, and 122 myles about. The like they ſay of Liburnia adjoyning unto it, and of the hollow gulfe Flanaticus. But others ſay, that the compaſſe of Liburnia is 180 miles. And ſome there be againe, who have ſet out Iapidia, as farre as to the ſaid creeke Flanaticus, behind Iſtria 130 myles: and ſo haue made Liburnia in circuit 150 miles. *Tuditanus*, who ſubdued the Iſtrians, upon his owne ſtatue there ſet this Inſcription; That from Aquileia to the river Titius, were 200 ſtadia. The townes in Iſtria of Romane citizens, be Ægida and Parentium. A Colonie there is beſides, Pola, now called Pietas Iulia; built in old time by the Colchians. It is from Tergeſte 100 miles. Soone after, ye ſee the towne Neſactium, and the river Arſia, the utmoſt bound now of Italy. From Ancona to Pola, there is a cut over the ſea of 120 myles. In the mid-land part of this tenth region, are theſe Colonies; Cremona, and Brixia, in the Cenomanes countrey: but in the Venetians countrey, Ateſte. Alſo the townes, Acelum, Patavium, Opitergium, Belunum, Vicetia: Mantua of the Tuſcanes is onely left beyond Padus. That the Venetians were the offſpring of the Trojanes, *Cato* hath ſet downe in writing: alſo, that the Cenomanes neere unto Maſſiles, dwell in the Volſcians countrey. Fertines, Tridentines, and Bernenſes, are townes of Rhetia. As for Verona, it is of Rhetians and Euganeans; but Iulienſes be of the Carnians. Then follow theſe, whome we need to uſe no curioſitie in naming; Alutruenſes, Aſſeriates, Flamonienſes, Vannienſes, and others ſurnamed Gulici: Foro Iulienſes ſurnamed Tranſpadani: Forelani, Venidates, Querqueni, Tauriſani, Togienſes, Varvani. In this tract there be periſhed in the borders, Itaminum, Pellaon, Palſicium. Of the Venetians, Atina and Cælina: of the Carnians, Segeſte and Ocra: and of the Tauriſſi, Noreia. Alſo from Aquileia 12 myles, there was a towne quite deſtroyed by *M. Claudius Marcellus*, even maugre the Senate, as *L. Piſo* hath recorded. In this region there be alſo ten notable lakes and rivers, either iſſuing forth of them as their children, or elſe fed and maintained by them, if ſo be they ſend them out againe, when they have once received them: as Larius doth Æna, Verbanus Ticinus, Benacus Mincius, Sebinus Oſſius, Eupilius Lamber, all inhabiting and ſeated in Padus. The Alpes reach in length ten miles from the upper ſea to the lower, as *Cælius* ſaith: *Timogenes*, two and twentie: but *Cornelius Nepos* draweth them out in breadth an hundred myles: *T. Livius* ſaith, three thouſand ſtadia: both of them take meaſure in divers places: for ſometime they exceed an hundred miles, where they disjoyne Germanie from Italie: and in other parts they are ſo thin, that they make not full out threeſcore and ten myles; and that by the providence as it were of Nature. The breadth of Italie from Varus under the foot of them, through the ſhallowes or plaſhes of Sabatia, the Taurines, Comus, Brixia, Verona, Vicetia, Opitergium, Aquileia, Tergeſte, Pola, and Ariſtia, maketh ſeven hundred and two miles.

Chap.

A

Chap. xx.

☞ *Of the Alpes and Alpine nations.*

MAny nations inhabit the Alpes, but thoſe of ſpeciall name from Pola to the tract of Tergeſtis, are theſe, the Secuſſes, Subocrines, Catili, Menocaleni: and neere to the Carnians thoſe who in times paſt were called Tauriſci, but now Norici. Vpon theſe there doe confine the Rhetians and Vindelici, all devided into many States. Men thinke that the Rheti are the Tuſcanes progenie, driven out by the Gaules, with their leader *Rhetus*. But leaving theſe Rhœtians, turning our breaſt and viſage to Italie, wee meet with the Euganean nations of the Alpes, B who enjoied the libertie and franchiſes of the Latines, and whoſe townes *Cato* reckoneth to the number of foure and thirtie. Of them, the Triumpilines, both people and lands were ſold. After them the Camuni and many ſuch were annexed to the next townes hips, and did ſervice as homagers to them. The Lepontions and the Salaſſians, the ſame *Cato* thinketh to be of the Tauricke race. But all others in manner ſuppoſe verily that the Lepontians were a reſidue left behind of *Herculés* his train and companie; grounding upon the interpretation of the Greek name, as having their bodies ſeaged with the Alpine ſnowes as they paſſed through: that the Graij likewiſe were of the ſame retinue, planted in the very paſſage, and inhabiting the Alpes Graiæ: alſo that the Euganei were nobleſt of birth, wherupon they took their name. The head cittie of them is Stonos. Of thoſe Rhœtians the Vennonetes and Sarunetes, inhabite neere the heads of the C river Rhenus. And of the Lepontians, thoſe who are called Viberi, dwell by the ſpring of Rhodanus, in the ſame quarter of the Alpes. There be alſo inhabitants within the Alpes, endowed with the libertie of Latium, namely, the Octodurenſes, and their neighbor borderers the Centrones, as alſo the Cottian States. The Caturiges, and thoſe from them deſcended, to wit, the Vagienni, Ligures, and ſuch as be called the Mountainers: and many kinds of the Capillati, confining upon the Ligurian ſea. It ſeemeth not amiſſe in this place to ſet downe an inſcription out of a triumphant Trophee erected in the Alpes, which runneth in this forme: *Vnto the Emperour* Cæſar *ſonne of* Auguſtus *of famous memorie, Arch-biſhop, Generall foure times, and inveſted in the ſacred authoritie of the Tribunes: the Senate and people of Rome. For that by his conduct and happie* D *fortune, all the Alpine nations which reached from the upper ſea to the nether, were reduced and brought under the Empire of the people of Rome. The Alpine nations ſubdued, are theſe, Triumpilini, Camuni, Vennonetes, Iſarci, Breuni, Naunes, and Focunales. Of the Vindelici foure nations, to wit, the Conſuanetes, Virucinates, Licates, and Catenates. The Abiſontes, Suanetes, Calucones, Brixentes, and Lepontij. Viberi, Nantuates, Seduni, Veragri, Salaci, Acitavones, Medulli, Vceni, Caturiges, Brigiani, Sogiontij, Ebroduntij, Nemaloni, Edenates, Eſubiani, Veamini, Gallitæ, Triulatti, Ectini, Vergunium, Eguituri, Nementuri, Oratelli, Neruſivelauni, Suetri. Now there were not reckoned among theſe the twelve Cottian States which were not up in any hoſtilitie, ne yet thoſe which were aſsigned to the free-townes to enioy the burgeoiſie of Rome, by vertue of the law Pompeia.* Behold this is that Italie conſecrated to the gods, theſe are her nations, and theſe be the towns of her ſeverall States. And more E than al this, that Italie, which when *L. Æmylius Paulus* and *Caius Attilius Regulus* were Conſuls, upon newes brought of a ſuddaine riſing and tumult of the Gaules, alone by it ſelfe, without any forrain aids, and even them, without any nations beyond Padus, armed 80000 horſemen and 700000 foot. In plentie of all mettall mines, it giveth place to no land whatſoever. But forbidden it is to dig any by an old act of the Senate, giving expreſſe order to make ſpare of Italie.

Chap. xxi.

☞ *Illyricum.*

THe nation of the Liburnians joineth unto Arſia, even as farre as the river Titius. A part thereof were the Mentores, Hymani, Encheleæ, Dudini, and thoſe whome *Callimachus* F nameth Pucetiæ. Now, the whole in generall is called by one name, Illyricum. The names of the nations are few of them either worthie or eaſie to bee ſpoken. As for the judiciall court of Aſſiſes at Scordona, the Iapides and foureteene States beſides of the Liburians reſort unto. Of which it greeveth me not to name the Lacinians, Stulpinians, Burniſtes and Albonenſes. And in that Court theſe nations following have the libertie of Italians, to wit, the Alutæ and

Flanates,

Flanates, of whom the sea or gulfe beareth the name: Lopsi, Varubarini, and the Assesiates that G
are exempt from all tributes: also of Islands, the Fulsinates and Curiolæ. Moreover, along the
borders and maritime coasts, beyond Nesactum, these townes; Alvona, Flavona, Tarsatica, Se-
nia, Lopsica, Ortopula, Vegium, Argyruntum, Corinium, the cittie Ænona, the river Pausinus,
and Tedanium, at which Iapida doth end. The Islands lying in that gulfe, together with the
townes, besides those townes above noted, Absirtium, Arba, Tragurium, Issa, Pharos beforetime
Paros, Crexa, Gissa, Portunata. Againe, within the Continent, the Colonie Iaderon, which is
from Pola 160 miles. From thence 30 miles off, the Island Colentum; and 18, the mouth of the
river Titius.

Chap. XXII.
Liburnia. H

THe end of Liburnia and beginning of Dalmatia is Scordona, which frontier towne is
twelve miles from the sea, situate upon the said river Titius. Then followeth the auncient
countrey of the Tariotes, and the castle Tariota, the Promontorie Diomedis, or, as some
would have it, the demie Island Hyllis, taking in circuit a hundred miles. Also Tragurium, inha-
bited by Romane cittizens, well knowne for the marble there: Sicum, into which place, *Claudius*
late *Cæsar*, sent the old fouldiors: the Colonie Salona, 222 miles from Iadera. There repaire to it
for law those that are described into Decuries or tithings 382: to wit, Dalmatians 22, Decunum
239, Ditiones 69, and Mezæi 52, Sardiates. In this tract are Burnum, Mandetrium, and Tribuli-
um, Castles of name for the battailes of the Romanes. There came also forth of the Islands the I
Issæans, Collentines, Separians, and Epetines. Besides them, certaine Castles, Piguntiæ and Ra-
taneum, and Narona a Colonie pertaining to the third Countie-Court, 72 miles from Salona,
lying hard to a river of the same name, and 20 miles from the sea. *M. Varro* writeth, That 89
States used to repaire thither for justice. Now, these only in a manner be knowne, to wit, Cerau-
ni in 33 Tithings. Daorizi in 17, Destitiates in 103, Docleates in 34, Deretines in 14, Deremistes
in 30, Dindari in 33, Glinditiones in 44, Melcomani in 24, Nareſij in 102, Scirtari in 72, Siculote
in 24. And the Vardæi, who sometime wasted and forraied Italie, in twentie decuries & no more.
Besides these, there held and possessed this tract Oenei, Partheni, Hemasini, Arthitæ, and Armi-
stæ. From the river Naron a hundred miles, is the Colonie Epidaurum. Townes of Romane citi-
zens be these, Rhizinium, Ascrinium, Butua, Olchinium, which beforetime was called Colchini- K
um, built by the Colchi. The river Drilo, and the towne upon it, Scodra, inhabited by Romane
cittizens, eighteene miles from the sea. Over and besides, many other townes of Greece, yea and
strong citties, out of all remembrance. For in that tract were the Labeates, Enderudines, Sassæi,
Grabæi, and those who properly were called Illyrij, the Taulantij and Pyræi. The Promontorie
Nymphæum in the coast thereof, keepeth still the name: also Lissum a towne of Romane citti-
zens, a hundred miles from Epidaurum.

Chap. XXIII.
Macedonie.

FRom Lissum is the province of Macedonie: the nations there, bee the Partheni, and on L
their backe side the Dassaretes. Two mountaines of Candavia threescore and nineteene
miles from Dyrrhachium. But in the borders thereof, Denda, a towne of Romane citti-
zens: also the Colonie Epidamnum, which for that unluckie names sake was by the Romanes
called Dyrrhachium. The river Aous, named of some Æas. Apollonia, sometime a Colonie
of the Corinthians, situate within the countrey, seven miles from the sea, in the marches where-
of is the famous Nymphæum. The borderers inhabiting thereby, are the Amantes and Bu-
liones. But in the verie edge thereof, the towne Oricum built by the Colchi. Then begin-
neth Epirus, the mountaines Acroceraunia, at which wee have bounded this Sea of Europe.
As for Oricum, it it from Salentinum (a Promontorie of Italie) foureſcore and five miles.
M

Chap. XXIIII.
Noricum.

BEhind the Carni and Iapides, whereas the great river Ister runneth, the Norici joine unto the
Rhæti. Their townes be, Virunum, Celeia, Teurnia, Aguntum, Viana, Æmona, Claudia, Fla-
vium,

A vium, Tolvenſe. Vpon the Norici there lie faſt the Lake Peiſo, the deſerts of the Boij. Howbeit, now by the Colonie of the late Emperour *Claudius* of famous memorie, Salaria and the towne Scarabantia Iulia, they be inhabited and peopled.

Chap. xxv.

Pannonia.

THence beginneth Pannonia ſo fruitfull in Maſt: wheras the hils of the Alpes, waxing more mild and civile, turning through the middeſt of Illyricum from the North to the South, ſettle lower by an eaſie deſcent both on the right hand and the left. That part which regar-
B deth the Adriaticke ſea, is called Dalmatia, and Illyricum abovenamed. Pannonia bendeth toward the North, and is bounded with the river Danubius. In it are theſe Colonies, Æmonia, Siſcia. And theſe rivers of ſpeciall name, and navigable, run into Danubius, Draus with more violence out of the Noricke Alpes; and Saus out of the Carnicke Alpes more gently, 115 miles between. As for Draus, it paſſeth through the Serretes, Serrapilles, Iaſians, and Sandrozetes: but Saus through the Colapians and Breuci. And theſe be the cheefe States of that countrie. Moreover, the Arivates, Azali, Amantes, Belgites, Catari, Corneates, Araviſci, Hercuniates, Latovici, Oſeriates, and Varciani. The mount Claudius, in the front whereof are the Scordiſci, and upon the backe, the Tauriſci. The Iſland in Saus, Metubarris, the biggeſt of all the river Iſlands. Beſides, notable goodly rivers, Calapis running into Saus neere Siſcia; where, with a double chan-
C nell it maketh the Iſland called Segeſtica. Another river Bacuntius, running likewiſe into Saus, at the towne Sirmium: where is the State of the Sirmians and Amantines. Five and fortie miles from thence Taurunum, where Saus is intermingled with Danubius. Higher above there run into it Valdanus and Vrpanus, and they ywis be no baſe and obſcure rivers.

Chap. xxvi.

Mœſia.

VNto Pannonia, joyneth the province called Mœſia, which extendeth along Danubius unto Pontus. It beginneth at the confluent above-named. In it, are the Dardanians, Celegeri,
D Triballi, Trimachi, Mœſi, Thranes, and the Scythians bordering upon Pontus. Faire rivers, out of the Dardanians countrey, Margis, Pingus, and Timachis. Out of Rhodope, Oeſſus: out of Hæmus, Vtus, Eſſamus, and Ieterus. Illyricum where it is broadeſt, taketh up 325 myles: it lyeth out in length from the river Arſia to the river Drinius, 800 myles. From Drinium to the cape Acroceraunium, 182 miles. *M. Agrippa* hath ſet downe all the whole ſea comprehending Italy and Illyricum, in the compaſſe of 1300 miles. In it are two ſmaller ſeas or gulfes bounded as I have ſaid: namely, The lower, otherwiſe called the Ionian, in the fore-part: The inner, called Adriaticum, which alſo they name The upper. In the Auſonian ſea, there be no Ilands worth the ſpeaking, but thoſe above-named. In the Ionian ſea there are but few, to wit, upon the Calabrian coaſt before Brunduſium; by the object ſite whereof, the haven is made: and againſt the
E Apulian coaſt Diomede, famous for the tombe and monument of *Diomedes*. Another alſo of that name, called by ſome, Teutria. As for the coaſt of Illyricum, it is peſtred with more than a thouſand; ſuch is the nature of the ſea, full of ſhelves and waſhes, with narrow chanels running betweene. But before the mouthes of Timavus, there be Ilands famous for hot waters, which ebbe and flowe with the ſea. And neere unto the territorie of the Iſtrians, Ciſſa, Pullariæ, and thoſe which the Greeks name Abſyrtides, of *Medeas* brother *Abſyrtis* there ſlaine. Neere unto them, they called the Ilands Electrides, wherein is ingendred Ambre, which they call Electrum: a moſt aſſured argument to prove the vanitie of the Greeks; for that which of them they meant, was never knowne. Againſt Iader, there is Liſſa; and certaine other over-againſt the Liburnians,
F called Creteæ: and as many of the Liburnians, Celaduſæ. Againſt Sutium, there is Brattia, commended for neat and goats. Iſſa, inhabited by Romane citizens, and Pharia with the towne. Next to theſe, Corcyra, ſurnamed Melæna, with the towne of the Gnidians, diſtant 22 miles aſunder: betweene which and Illyricum, is Melita; whereof (as *Callimachus* teſtifieth) the little dogs Melitæi tooke their name: and twelve miles from thence, the three Elaphites. In the Ionian ſea from Oricum 1000 miles, is Saſonis, well knowne for the Pirats harbour there.

THE

THE FOVRTH BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

From whence first arose all the fabulous lyes, and the excellent Learning of the Greekes.

The third Sea of Europe, beginneth at the mountaines Acroceraunia, and endeth in Hellespont: It containeth besides 19 smaller gulfes or creekes, 25 thousand myles. Within it, are Epirus, Acarnania, Ætolia, Phocis, Locris, Achaia, Messania, Laconia, Argolis, Megaris, Attica, Bœotia. And againe from another sea the same Phocis and Locris, Doris, Phthiotis, Thessalia, Magnesia, Macedonia, Thracia. All the fabulous veine, and learning of Greece, proceeded out of this quarter. And therefore we will therein stay somewhat the longer. The countrey Epirus, generally so called, beginneth at the mountaines Acroceraunia. In it, are first the Chaones, of whome Chaonia taketh the name: then the Thesprotians, and Antigenenses: the place Aornus, and the aire arising out of it so noysome and pestiferous for birds. The Cestines, and Perrhœbians with their mountaine Pindus; the Cassiopæi, the Dryopes, Selli, Heliopes, and Molossi, among whome is the temple of Iupiter Dodonæus, *so famous for the Oracle there: the mountaine Tomarus, renowmed by* Theopompus *for the hundred fountaines about the foot thereof.*

CHAP. I.

Epirus.

EPirus it selfe reaching to Magnesia and Macedonie, hath behind it the Dassaretians above named, a free nation; but anon the savage people of the Dardanians. On the left side of the Dardanians, the Trebellians and nations of Moesia lye raunged: afront there joine vnto them, the Medi and Denthelates; upon whome the Thracians border, who reach as farre as to Pontus. Thus environed it is and defenced round, partly with the high hill Rhodope, and anon also with Hæmus. In the utmost coast of Epirus among the Acroceraunia, is the castle Chimæra, under which is the spring of the kings water. The townes are, Mæandria and Cestria: the river of Thesprotia, Thyamis: the colonie Buthrotium: and the gulfe of Ambracia, above all others most famous, receiving at his mouth the wide sea; 39 miles in length, and 15 in breadth. Into it runneth the river Acheron, flowing out of Acherusia, a lake of Thesprotia 36 myles from thence: and for the bridge over it 1000 foot long, admirable to those that admire & wonder at all things of their owne. In the very gulfe is the towne Ambracia. The rivers of the Molossians, Aphas and Arachtus. The cittie Anactoria, and the lake Pandosia. The townes of Acarnania, called beforetime Curetus, bee Heraclea and Echinus: and in the very entrance and mouth thereof, Actium a Colonie of *Augustus*, with the goodly temple of *Apollo*, and the free cities Nicopolis. When yee are gone out of the Ambracian gulfe into the Ionian sea, yee meet with the Leucadian sea coast, and the Promontorie of Leucate. Then the creeke, and Leucadia it selfe, a demie Iland, sometime called Neritis, but by the labour of the inhabitants thereby, cut quite from the Continent, but annexed to it againe by meanes of the winds blowing together heapes of

A of ſand, which place is called Dioryctus, and is in length almoſt halfe a myle. A towne in it there is called Leucas, ſometime Neritum. Then the citties of the Acarnanians, Halyzea, Stratos, Argos ſurnamed Amphilochicum. The river Achelous running out of Pindus, and dividing Acarnania from Ætolia, and by continuall bringing in of earth, annexing the Iſland Artemita to the firme and maine land.

Chap. ii.

Ætolia.

B THe Ætolian nations, be the Athamanes, Tymphei, Ephiri, Ænienſes, Perrhœbi, Dolopes, Maraces and Atraces, from whom the river Atrax falleth into the Ionian ſea. The towne Calydon in Ætolia is ſeven miles and an halfe from the ſea, neer to the river Euenus. Then followeth Macynia and Molychria, behind which Chalcis ſtandeth, and the mountaine Taphiaſſus. But in the very edge & borders thereof, the Promontorie Antirrhium, where is the mouth of the Corinthian gulfe, not a mile broad where it runneth in, and devideth the Ætolians from Peloponneſus. The Promontorie that ſhooteth out againſt it, is named Rhion: but upon that Corinthian gulfe are the townes of Ætolia, Naupactum and Pylene: but in the midland parts, Pleucon, Halyſarna. The Mountaines of name: in Dodone, Tomarus: in Ambracia, Grania: in Acarnania, Aracynthus: in Ætolia, Acanthon, Panætolium and Macinium.

Chap. iii.

C

Locri.

NExt to the Ætolians are the Locri, ſurnamed Ozolæ, free States and exempt: the towne Oeanthe: the haven of *Apollo Phæſtius*: the creeke Criſſæus. Within-forth are theſe towns Argyna, Eupalia, Phæſtum, and Calamiſſus. Beyond them are Cirrhæi, the plaines of Phocis, the towne Cirrha, the haven Chalæon: from which, ſeven miles within the land, is the free cittie Delphi, under the hill Pernaſſus, the moſt famous place upon earth for the Oracle of *Apollo*. The fountaine Caſtalius, the river Cephiſſus, running before Delphos, which ariſeth in a cittie, ſometime called Liloea. Moreover, the towne Criſſa, and together with the Bulenſes, Anticyra, Naulochum, Pyrrha, Amphiſſa an exempt State, Trichone, Tritea, Ambryſus, the region Drymæa, named Daulis. Then in the inmoſt nouke of the creeke, the very canton and angle of Bœotia is waſhed by the ſea, with theſe townes Siphæ and Thebæ, which are ſurnamed Corſicæ, neere to Helicon. The third towne of Bœotia from this ſea is Pagæ, from whence proceedeth and beareth forth the necke or cape of Peloponneſus.

D

Chap. iiii.

Peloponneſus.

E PEloponneſus, called beforetime Apia and Pelaſgia, is a demie Iſland, worthie to come behind no other land for excellencie and name; lying betweene two ſeas, Ægeum and Ionium: like unto the leafe of a plaine tree, in regard of the indented creekes and cornered noukes thereof: it beareth a circuit of 563 myles, according to *Iſidorus*. The ſame, if you compriſe the creekes and gulfes, addeth almoſt as much more. The ſtreight where it beginneth to paſſe on and goe forward, is called Iſthmos. In which place the ſeas abovenamed gulhing and breaking from diverſe waies, to wit, from the North and the Eaſt, doe devour all the bredth of it there: untill by the contrarie running in of ſo great ſeas, the ſides on both hands being eaten away, and leaving a ſpace of land betweene, five miles over, Hellas with a narrow neck doth meet with Peloponneſus. The one ſide thereof is called the Corinthian gulfe, the other, the Saronian. Lecheum of the one hand, and Cenchreæ of the other, do bound out and limit the ſaid

F ſtreight: where the ſhips are to fetch a great compaſſe about with ſome daunger, ſuch veſſels I meane as for their bigneſſe cannot be conveighed over upon wains. For which cauſe, *Demetrius* the king, *Cæſar* the Dictator, prince *Caius*, and *Domitius Nero*, aſſaied to cut through the narrow foreland, and make a channell navigable with eaſe: but the attempt and enterpriſe was unhappie, as appeared by the iſſue and end of them all. In the middeſt of this narrow ſtreight which wee

have called Isthmos, the Colonie Corinthus, beforetime called Ephyra, situate hard unto a little hill, is inhabited, some threescore stadia from both sea sides: which from the top of the high hill and castle there, which is named Acrocorinthus, wherein is the fountain Pirene, hath a prospect into both those contrarie seas. At this Corinthian gulfe there is a passage or cut by sea from Leucas to Patræ of 87 miles. Patræ a Colonie, built upon the promontorie of Peloponnesus, that shooteth farthest into the sea, overagainst Ætolia and the river Evenus, of lesse distance as hath been said, than five myes, in the very gullet and entrance, do send out the Corinthian gulfe 85 myles in length, even as farre as Isthmos. G

Chap. v.

Achaia. H

Achaia, the name of a province, beginneth at Isthmus: aforetime called it was Ægialos, because of the cities, situate so orderly upon the strand. The principall and first there is Lecheæ abovenamed, a port town of the Corinthians. Next to it Oluros, a castle of the Pellenæans. The towns, Helice, Bura, and (into which the inhabitants retired themselves, when these beforenamed were drowned in the sea) Sicyon, Ægira, Ægion and Erineos. Within the countrey was Cleone and Hysiæ. Also the haven Panhormus, & Rhium described before: from which promontorie five myles off standeth Patræ abovementioned, and the place called Pheræ. Of nine hils in Achaia, Scioessa is most knowne, also the Spring Cymothoe. Beyond Patræ is the towne Olenum, the Colonie Dymæ. Certaine faire places called Buprasium and Hirmene: and the promontorie Araxum. The creeke of Cyllene, the cape Chelonates: from whence to Cyllene is two myles. The castle Phlius. The tract also by *Homer* named Arethyrea, and afterwards Asophis. Then the countrey of the Elians, who before were called Epei. As for Elis the cittie it selfe, it is up higher in the midland parts, twelve myles from Pylos. Within it standeth the chappell of *Iupiter Olympius*, which for the fame of the games there, containeth the Greekes and Chaldeans account of yeares. Moreover, the towne sometime of the Pisæans, before which the river Alpheus runneth. But in the borders and coast thereof the promontorie Ichthys Vpon the river Alpheus, there is passage by water in barges to the townes Aulos and Leprion. The promontorie Platanestus. All these lie Westward. But toward the South, the arme of the sea called Cyparissius and the cittie Cyparissa, 72 miles in circuit. The townes upon it, Pylos, Methone, a place and forrest called Delos: the promontorie Acritas: the creeke Asinæus of the towne Asinum, and Coronæus of Corone. And these are limitted with Tænarus the promontorie. There also is the region Messenia with 22 mountaines. The river Paomisus. But within, Messene it selfe, Ithome, Oechalia, Arene, Pteleon, Thryon, Dorion, Zanclum, famous townes all for many occurrents at sundrie times. The compasse of this arme of the sea is 80 myles, the cut overcrosse 30 myles. Then from Tænarus, the Laconian land pertaining to a free people, and an arme of the sea there in circuit about 206 miles, but 39 miles over. The townes Tænarum, Amiclæ. Pheræ, Leuctra, and within-forth Sparta, Pheranicum: and where stood Cardamyle, Pitane, and Anthane. The place Thyrea, and Gerania. The hill Taygetus: the river Eurotas, the creeke Ægylodes, and the towne Psammathus. The gulfe Gytheates, of a towne thereby (Gythæum) from whence to the Island Creet, there is a most direct and sure cut. All these are enclosed within the promontorie Malcum. The arme of the sea next following is called Argolicus, and is 50 miles over, and 172 miles about. The townes upon it, Boea, Epidaurus, Limera, named also Zarax. Cyphanta the haven. Rivers, Inachus, Erasinus: betweene which, standeth Argos surnamed Hippium upon the Lake Lerne, from the sea two miles, and nine miles farther Mycenæ. Also, where they say Tirynth a stood, and the place Mantinea. Hils, Artemius, Apesantus, Asterion, Parparus, and eleven others besides. Fountaines, Niobe, Amymone, Psammothe. From Scyllæum to Isthmus 177 myles. Townes, Hermione, Troezen, Coryphasium and Argos, called of some Inachium, of others Dipsium. The haven Cænites, the creeke Saronicus, beset round about in old time with woods of oake, wherupon it had the name, for so old Greece called an oake. Within it stood the towne Epidaurum, much resorted unto for the temple of *Aesculapius*, the promontorie Spiræum, the havens Anthedon, and Bucephalus: and likewise Cenchreæ which we spake of before, being the other limit of Isthmus, together with the chappell of *Neptune*, famous for the Games there represented every five yeeres. Thus many creekes do scotch and cut Peloponnesus: thus I K L M

many

A many seas I say doe rore and dash against it. For on the North side the Ionian sea breaketh in: on the West it is beaten upon with the Sicilian. From the South the Cretian sea driveth against it: Ægeum from the Southeast, and Myrtoum on the Northeast, which beginning at the Megarian gulfe, washeth all Attica.

Chap. vi.

Of Arcadia.

THe midland parts thereof, Arcadia most of all taketh up, being every way far remote from the sea: at the beginning it was named Drymodis, but soone after Pelasgis. The townes in
B it be Psophis, Mantinea, Stymphalum, Tegea, Antegonea, Orchomenum, Pheneum, Palatium, from whence the mount Palatium at Rome tooke the name. Megalepolis, Catina, Bocalium, Carmon, Parrhasiæ, Thelphusa, Melanæa, Heræa, Pile, Pellana, Agræ, Epium, Cynætha, Lepreon of Arcadia, Parthenium, Alea, Methydrium, Enespe, Maciſtum, Lampe, Clitorium, Cleone: betweene which townes is the tract Nemea, usually called Berubinadia. Mountaines in Arcadia, Pholoe with a towne so named. Item, Hyllene, Lyceus, wherein was the chappell of *Iupiter Lycenus*, Mænalus, Artemisius, Parthenians, Lampeus, and Nonacris: and eight besides of base account. Rivers, Ladon, issuing out of the meeres and fennes of Pheneus, Erymanthus out of a mountaine of the same name, running both downe into Alpheus. The rest of the citties to
C bee named in Achæa, Aliphiræi, Abeatæ, Pyrgenses, Pareatæ, Paragenitiæ, Tortuni, Typanæi, Thryasij, Trittenses. All Achæa generally throughout, *Domitius Nero* endowed with freedome. Peloponnesus from the promontorie of Malea to the towne Lechæum upon the Corinthian gulfe, lieth in breadth 160 miles: but over crosse from Elis to Epidaurum 125 myles: from Olympia to Argos through Arcadia 63 miles. From the same place to Phlius is the said measure. And all throughout, as if Nature made recompence for the irruptions of the seas, it riseth up in threescore and sixteene hils.

Chap. vii.

Greece and Attica.

D

AT the streights of Isthmus beginneth Hellas, of our countreymen called Græcia. The first tract thereof is Attica, in old time named Acte. It reacheth unto Isthmus on that part therof which is called Megaris of the colonie Megara, or against Pagæ. These two towns as Peloponnesus lieth out in length, are seated on either hand, as it were, upon the shoulders of Hellas. The Pagæans, and more than so, the Ægosthenienses lie annexed to the Magarensians, and owe service to them. In the coast thereof is the haven Schœnus. Townes, Sidus, Cremyon, Scironia rockes for three myles long, Geranea, Megara, and Eleusin. There were besides Oenoa and Probalinthus, which now are not to be seene, 52 myles from Isthmus. Pyræus and Phalera, two havens joined to Athens by a wall, within the land five myles. A free cittie this is, and
E needeth no more any mans praise: so noble and famous it is otherwise, beyond all measure. In Attica be these fountaines, Cephissia, Larine, Callirrhoe, and Enneacreunos. Mountaines, Brilessus, Megialeus, Icarius, Hymettus, and Lyrabetus: also the river Ilissos From Pyræum 42 miles off, is the promontorie Sunium, likewise the promontorie Doriscum. Also, Poramos and Brauron, townes in time past. The village Rhamnus, and the place Marathon, the plain Thriasius, the town Melita and Oropus, in the confines or marches of Bœotia. Vnto which belong Anthedon, Oncheſtos, Thespræ a free towne Lebadea: and Thebes surnamed Bœotia, not inferior in fame and renowne to Athens, as being the native countrey, and as men would have it, of two gods, *Liber* and *Hercules*. Also, they attribute the birth of the Muses in the wood Helicon. To this Thebes is
F assigned the forrest Cithæron, and the river Ismenus. Moreover, Fountaines in Bœotia, Oedipodium, Psammate, Dirce, Epigranea, Arethusa, Hippocrene, Aganippe, and Gargaphiæ. Mountaines over and besides the forenamed, Mycalessus, Adylisus, Acontius. The rest of the townes betweene Megara and Thebes, Eleutheræ, Haliartus, Plateæ, Pheræ, Aspledon, Hyle, Thisbe, Erythræ, Glissas, and Copæ. Neere to the river Cephissus, Lamia and Anichia: Medeon, Phligone, Grephis, Coronæa, Chæronia. But in the outward borders, beneath Thebes, Ocale, Elæon, Scolos, Scœnos, Peteon, Hyrie, Mycalessus, Hyreseon, Pteleon, Olyros, Tanagia, a free State; and in

the very mouth of Euripus, which the Iſland Euboea maketh by the oppoſite ſite thereof, Aulis, G
ſo renowned for the large haven that it hath. The Bœotians in old time were named Hyantes. The Locrians alſo are named withall Epicnemidij, in times paſt Letegetes, through whome the river Cephiſſus runneth into the ſea. Townes, Opus (whereof commeth the gulfe Opuntinus) and Cynus. Vpon the ſea-coaſt of Phocis, one and no more, to wit Daphnus. Within-forth among the Locrians, Elatea, and upon the bank of Cephiſſus (as we have ſaid) Lilæa: and toward Delphos, Cnenius and Hiampolis. Againe, the marches of Locri, wherein ſtand Larymna and Thronium, neere unto which the river Boagrius falleth into the ſea. Townes, Narycion, Alope, Scarphia. After this, the vale called of the people there dwelling, Maliacus Sinus, wherein bee theſe townes, Halcyone, Econia, and Phalara. Then Doris, wherein are Sperchios, Erineon, Boion, Pindus, Cytinum. On the backe ſide of Doris is the mountaine Oeta. Then followeth Æmo- H
nia that ſo often hath changed name: For one and the ſame hath beene called Pelaſgicum, Argos, and Hellas, Theſſalia alſo and Dryopis, and evermore tooke name of the kings. In it was borne a king called *Græcus*, of whom Greece bare the name: there alſo was *Hellen* borne, from whence came the Hellenes. Theſe being but one people, *Homer* hath given three names unto, that is to ſay, Myrmidones, Hellenes, and Achæi. Of theſe, they be called Phthiotæ who inhabit Doris. Their townes bee Echinus, in the very gullet and entrance of the river Sperchius: and the ſtreights of Thermopylæ, ſo named by reaſon of the waters: and foure miles from thence Heraclea, was called Trachin. There is the hill Callidromus: and the famous townes, Hellas, Halos, Lamia, Phthia, and Arne. I

Chap. viii.

Theſſalie.

MOreover in Theſſalie, Orchomenus, called beforetime Minyeus; and the town Almon, or after ſome Elmon; Atrax, Pelinna, and the fountaine Hyperia. Townes, Pheræ, behind which Pierius ſtretcheth forth to Macedonie: Lariſſa, Gomphi, Thebes of Theſſalie, the wood Ptelcon, and the creeke Pagaſicus. The towne Pagaſa, the ſame named afterwards Demetrias; Tricca, the Phaſalian plaines, with a free citie; Cranon, and Iletia. Mountaines of Phthiotis, Nymphæus, moſt faire and ſightly for the naturall arbors and garden-workes there: Buzigæus, Donaceſa, Bermius, Daphiſſa, Chimerion, Athamas, Stephane. In Theſſaly there K
be 34, whereof the moſt famous are, Cerceti, Olympus, Pierus, Oſſa: juſt againſt which, is Pindus and Othrys, the ſeat and habitation of the Lapithæ; and thoſe lie toward the Weſt: but Eaſtward, Pelios, all of them bending in manner of a theatre: and before them ſtand raunged wedgewiſe, 72 cities. Rivers of Theſſalie, Apidanus, Phœnix, Enipeus, Onochomus, Pamiſus: the fountaine Meſieis, the poole Bœbeis: and above all the reſt, the moſt famous river Peneus, which ariſing neere Gomphi, runneth for 500 ſtadia in a woodie dale between Oſſa and Olympus, and halfe that way is navigable. In this courſe of his, are the places called Tempe, 5 miles in length, and almoſt an acre and a halfe broad, where on both hands the hils ariſe by a gentle aſcent above the reach of mans ſight. Within-forth glideth Peneus by, in a freſh green grove, clear as cryſtall L
glaſſe over the gravelly ſtones; pleaſant to behold for the graſſe upon the bankes, and reſounding againe with the melodious conſent of the birds. It taketh in the river Euroras, but entertaineth him not, but as he floweth over the top of him like oyle, as *Homer* ſaith: within a while after that hee hath carried him a ſmall way, letteth him goe againe and rejecteth him, as refuſing to mingle with his owne ſilver ſtreames, thoſe pœnall and curſed waters engendred for the infernall Furies of hell.

Chap. ix.

Magneſia.

TO Theſſaly, Magneſia is annexed: the fountaine there, is Libethra. The townes, Iolchos, M
Hirmenium, Pyrrha, Methone, Olizon. The promontorie Sepias. Townes moreover, Caſtana, Sphalatra, and the promontorie Ænantium. Townes beſides, Meliboea, Rhiſus, Erymne. The mouth of Peneus. Townes, Homolium, Orthe, Theſpiæ, Phalanna, Thaumacie, Gyrton, Cranon, Acarne, Dotion, Melitæa, Phylace, Potinæ. The length of Epirus, Achaia, Attica, and Theſſalie, lying ſtreight out, is by report 480 miles, the breadth 287.

Chap.

A

Chap. X.

Macedonie.

MAcedonie, so called afterwards (for before-time it was named Emathia) is a kingdome consisting of 150 severall States, renowmed for two kings above the rest, and ennobled sometime for the Monarchie and Empire of the world. This countrey lying farre in behind Magnesia and Thessalie toward the nations of Epirus Westward, is much troubled and infested with the Dardanians. The North parts thereof, are defended by Pæonia and Pelagonia, against the Triballi. The townes be these, Aege, wherein the manner was to interre their kings: B Berœa, and Æginium, in that quarter which of the Wood is called Pieria. In the outward borders, Heraclea, and the river Apilas: more townes, Phina, and Oloros: the river Haliacmon. Within-forth, are the Haloritæ, the Vallei, Phylacei, Cyrrhestæ, Tyrissæi: Pella the Colonie: the town Stobi of Romane citizens. Anon, Antigonia, Europus upon the rivet Axius, and another of the same name through which Rhædias runneth: Heordeæ, Scydra, Mieza, Gordiniæ. Soone after in the borders, Ichnæ, and the river Axius. To this bound the Dardani: Treres, and Pieres border upon Macedonie. From this river, are the nations of Pæoniâ, Parorei, Heordenses, Almopij, Pelagones, and Mygdones. The mountaines Rhodope, Scopius, and Orbelus. The rest is a plaine countrey, wherein Nature seemeth to set out her riches; in the lap wherof are the C Arethusij, Antiochienses, Idomenenses, Doberienses, Trienses, Allantenses, Andaristenses, Moryllij, Garesci, Lyncestæ, Othrionei, and the free States of the Amantines and Orestæ. Colonies, Bulledensis and Diensis. Xilopolitæ, Scotussæi free; Heraclea, Sintica, Timphei and Coronæi. In the coast of the Macedonian sea, the towne Calastra, and within-forth, Phileros, and Lete: and in the middle bending of the coast, Thessalonica, of free estate and condition. To it from Dyrrachium, it is 114 myles, Thermæ. Vpon the gulfe Thermaicus, be these townes, Dicæa, Pydna, Derrha, Scione: the promontorie Canastræum. Townes, Pallene, Pherga. In which region these mountaines, Hypsizorus, Epitus, Alchione, Leuomne. Townes, Nissos, Brygion, Eleon, Mendæ, and in the Isthmos of Pallene, the colonie sometime called Potidæa, and now Cassandria, Anthemus, Holophyxus the creeke, and Mecyberna. Townes, Phiscella, D Ampelos, Torone, and Singos: the Frith (where *Xerxes* king of the Persians cut the hill Athos from the Continent) in length a mile and a halfe. The mountaine it selfe shooteth out from the plaine into the sea, 75 miles. The compasse of the foot thereof, taketh 150 miles. A towne there was in the pitch of it, Acroton. Now there be Vranopolis, Palæotrium, Thyssus, Cleone, Apollonia, the inhabitants whereof be named Macrobij. The towne Cassera, and a second gullet or creeke of the Isthmus, Acanthus, Stagira, Sitone, Heraclea, and the region lying under Mygdonia, wherein are seated farre out from the sea, Apollonia and Arethusa. Againe in the coast, Posidium, and a creeke with the towne Cermorus: Amphipolis a free state, and the people Bisaltæ. Then, the river Strymon, which is the bound of Macedonie, which springeth in Hæmus: of which, this is worthie to be remembred, that it runneth into seven lakes before it keepeth a E direct course. This is that Macedonie, which sometime conquered the dominion over all the earth: this over-ran Asia, Armenia, Iberia, Albania, Cappadocia, Syria, and Ægypt; yea and passed over Taurus and Caucasus: this ruled over the Bactrians, Medians, and Persians, and possessed all the East: this having the conquest of India, raunged after the tracts of Father *Liber* and *Hercules*. This is the very same Macedonie, of which in one day *Paulus Æmylius* our Generall, sacked and sold 72 cities. See the difference of Fortune in two men.

Chap. XI.

Thracia.

F NOw followeth Thracia, among the most valiant nations of Europe, divided into 52 regiments of souldiers. Of those States in it, the Densseletes and Medi, whome it greeves me not to name, doe inhabite neare to the river Strymon on the right side, as farre as to the Bisaltæ above-named: on the left, the Digeri, and many townes of the Bessi, even to the river Nestus, which enviroueth the botome of the hill Pangæus, betweene the Eleti, Diobesi, and Carbilesi, and so forward to the Brysæ and Capæi. Odomanta a towne of the Odrysians, sen-

deth out the river Hebrus to the neighbour-borderers, the Carbiletes, Pyrogeris, Drugeri, Cænicks, Hypſalts, Beni, Corpilli, Botiæi, and Edons. In the ſame tract the Selletæ, Priautæ, Diloncæ, Thyni, Celetæ, the greater under Hæmus, the leſſe under Rhodope: betweene whome, runneth the river Hebrus. The towne ſituate beneath Rhodope, was before-time named Ponteropolis; ſoone after by the founder, Philippopolis; but now of the ſite thereof Trimontium. The aſcent of Hæmus up to the top, taketh ſixe miles: the backe ſide and hanging thereof downe to Iſter, the Mœſians, Getes, Aoti, Gaudæ, and Clariæ, and under them the Arræi, Sarmata whom they call Areatæ, and Scythians: and about the ſea coaſt of Pontus, the Moriſenes and Sithonians, from whome the Poët *Orpheus* deſcended, doe inhabite. Thus Iſter boundeth it on the North: in the Eaſt, Pontus and Propontus: Southward, the ſea Ægæum, in the coaſt whereof from Strymon, ſtand Apollonia, Oeſtima, Neapolis, and Polis. Within-forth, the Colonie of *Philip*, and 325 myles from Dyrrhachium, Scotuſa, Topiris, and the mouth of the river Neſtus. The hill Pangæus, Heraclea, Olynthos Abdera a free citie, the meere and nation of the Biſons. There, ſtood the towne Tinda, terrible for the horſes of *Diomedes* that ſtabled there. Now at this day, Diceæ, Iſmaron, the place Parthenion, Phaleſina, Maronea called Ortagurea before-time. The mountaine Serrium and Zonæ: then, the plaine Doriſcus able to receive * 10000 men: for ſo *Xerxes* tooke a juſt account of his armie and numbred it. The mouth of Hebrus: the haven of Stentor: the free towne Ænea, togither with the tombe of *Polydorus*, the region ſometime of the Cicones. From Doriſcus, the coaſt bendeth crookedly to Macron-Tichos, for 122 myles. About which place the river Melas, whereof the creeke beareth name. Townes, Cypſella, Biſanthe, and that which is called Macron-Tichos, what way as ſtretching forth the walles along from Propontis to the Creeke Melanes betweene two ſeas, it excludeth Cherſoneſus as it runneth out. For, Thracia of one ſide beginning at the ſea coaſt of Pontus, where the river Iſter is diſcharged and ſwallowed up, hath in that quarter paſſing faire and beautifull cities, to wit, Iſtropolis of the Mileſians, Tomi, and Calatis which before was called Acernetis. It had ſometime Heraclea and Bizon, which ſunke and was loſt in a gaping chinke of the earth; but now inſtead thereof Dionyſopolis, called before Crunos. The river Ziras runneth hard by it. All that tract, the Scythians named beſides Aroteres, poſſeſſed. Their townes were, Aphrodiſius, Libiſtos, Zigere, Borcobe, Eumenia, Parthenopolis, Gerania, where it is reported that the nation of the Pygmeans kept, whome the barbarous people call Catizi, and they are of beliefe that they were chaſed away and put to flight by cranes. In the edge thereof next to Dionyſopolis, there is Odeſſus of the Mileſians, the river Pomiſcus, the towne Tetranaulochos: the mountaine Hæmus bearing forth with a huge top into Pontus, had in the pitch thereof the towne Ariſtæum. Now in the coaſt is Meſembria and Anchialum, where Meſſa was. The region Aſtice. There was the towne Anthium, now there is Apollonia. The rivers Paniſſa, Rira, Tearus, Oroſines. Townes, Thynnias, Almedeſſos, Develton with the poole which now is called Deultum, belonging to the old ſouldiers. Phinopolis, neare unto which is Boſphorus. From the mouth of Iſter to the entrance of Pontus, ſome have made it 555 miles. *Agrippa* hath ſet to 40 miles more. And from thence to the wall above-named 150: and ſo from it to Cherſoneſus 126. But neere to Boſphorus is the arme of the ſea Gaſthenes. The haven ſurnamed of old men, and another likewiſe of women. The promontorie Chryſoceras, wherupon ſtandeth the town Bizantium of free eſtate, called beforetime Lygos. From Dyrrachium it is 711 miles. Thus much lyeth out the maine in length between the Adriaticke ſea and Propontis. Rivers, Bathynias, Pydaras, or Atyras. Towns, Selymbria, Perinthus, annexed to the Continent 200 paſes broad. Within-forth, Byzia, the caſtle of Thracian kings, hated of Swallowes, upon the horrible and curſed fact of *Tereus*. The region Camica: the colonie Flaviopolus, where beforetime the towne was called Zela. And 50 miles from Byria the colonie Apros, which is from Philippi 188 myles. But in the borders, the river Erginus, where was the towne Gonos. And there you leave the citie Lyſimachia, alſo now in Cherſoneſus. For another land paſſage or Iſthmus there is of like ſtreigtneſſe, all one in name and of equall breadth with that of Corinth. Likewiſe on both ſides two cities doe beautifie and ſet out the ſtronds, which they take up not unlike to the other, to wit, Pactiæ from Propontis, and Cardia from the gulfe Melane: as for this, it taketh the name of the forme and proportion of the place made like a hart: and both, afterwards, were encloſed within Lyſimachia 3 myles from the * long walles aboveſaid. Cherſoneſus from Propontis ſide, had Tiriſtaſis and Crithotes, alſo Ciſſa faſt upon the river Ægos: now it hath from the colonie Apros 32 miles Reſiſtos, over-

againſt

* Or, 10000.

Macron-Tichos.

A againſt the colonie Pariana. And Helleſpontus, dividing Europe from Aſia, ſeven ſtadia aſunder (as we have ſaid) hath foure cities there oppoſite one againſt another, to wit, in Europe, Calippolis and Seſtos; in Aſia, Lampſacum and Abydos. Then, is the promontorie of Cherſoneſus Maſtiſia, juſt contrarie to Sigeum, in the crooked front whereof is Cynoſſema: for ſo is *Hecubaes* tombe named, the very rode of the Athenians navie. The towne and chappell of *Proteſilaus*: and in the very utmoſt forefront of Cherroneſus, which is called Æolium, the towne Elæus. After it, as a man goeth to the gulfe Melane, the havens Cælos, Panhormus, and the abovenamed Cardia. The third ſea of Europe, is in this manner bounded and limited. Mountaines of Thracia over and above thoſe afore rehearſed, Edonus, Gigemorus, Meritus, and Melamphyllon. Rivers falling into Hebrus, be Bargus, and Suemus. The length of Macedonie,
B Thracia, and Helleſpontus, is ſet downe before. Some make it ſeven hundred and twentie miles. The breadth is three hundred and eightie miles. The ſea Ægeum tooke that name of a rocke, betweene Tenedos and Chios, more truely than of an Iland named Aex, reſembling a goat, and therfore ſo called of the Greekes; which all at once appeareth to riſe out of the mids of the ſea. The ſea-men that ſaile from out of Achaia to Andros, diſcover it on the right hand, and to them it preſageth ſome dreadfull and miſchievous accident. Part of the Ægæan ſea is laid to the Myrtoum, and ſo called it is of a little Iſland, which ſheweth it ſelfe to them that ſet ſaile from Gereſtus to Macedonie; not farre from Charyſtos in Eubœa. The Romanes comprehend all theſe ſeas in two names: namely, Macedonicum, all that which toucheth Macedonia and Thracia: and Græcienſum where it beateth upon Greece. As for the Greekes,
C they divide even the Ionian ſea into Siculum and Creticum, of the Iſlands. Alſo, Icarius they call that betweene Samos and Mycione. All the other names are given by gulfes and creeks, whereof we have ſpoken. And thus much verily as touching the ſeas and nations contained in this manner within the third ſection or gulfe of Europe.

Chap. xii.

The Iſlands betweene thoſe lands, among which, Creta, Eubœa, Cyclades, and Sporades: alſo of Helleſpont, Pontus, Mœotis, Dacia, Sarmatia and Scythia.

D Iſlands overagainſt Threſprotia, Corcyra: 12 miles from Buthrotus, and the ſame from the cliffes Acroceraunia 50 myles, with a cittie of the ſame name, Corcyra of free condition, alſo the towne Caſſiope, and the temple of *Iupiter Caſsiopæus*: it lieth out in length 97 miles. *Homer* called it Scheria and Phæacia: *Callimachus* alſo, Drepane. About it are ſome others: but bending toward Italie, Thoronos: and toward Leucadia the two Paxæ, five miles divided from Corcyra. And not farre from them before Corcyra, Ericuſa, Marate, Elaphuſa, Malthace, Trachiæ, Pytionia, Ptychia, Tarachie. And from Pholachrum a promontorie of Corcyra, the rocke into which there goeth a tale, that the ſhip of *Vliſſes* was turned, for the reſemblance it hath of ſuch a thing. Before Leucadia, Sybota. But between it and Achaia there be very many: of which Teleboides the ſame that Taphiæ: but of the inhabitants before Leucadia, they be called Taphi-
E as, Oxie, and Prinoeſſa: and before Ætolia, the Echinades, Ægialia, Cotonis, Thyatira, Geoaris, Dionyſia, Cyrnus, Chalcis, Pinara and Myſtus. Before them in the deepe ſea, Cephalenia and Zacynthus, both free States: Ithaca, Dulichium, Same, Crocylea, and Paxos. Cephalenia ſometime called Melæna, is 11 myles off, and 44 myles about. As for Same, it was deſtroied by the Romanes: howbeit, ſtill it hath three townes: betweene it and Achaia is Zacynthus with a town, a ſtately Iſland, and paſſing fertile. In times paſt called it was Hyrie, and is 22 miles diſtant from the South coaſt of Cephalenia. The famous hill Elatus is there. The Iſland it ſelfe is in circuit 25 miles. Twelve miles from it is Ithaca, wherein ſtandeth the mountaine Neritus. And in the whole it taketh up the compaſſe of 25 miles. From it twelve miles off is Araxum a cape of Peloponne-
F ſus. Before this Iſland in the maine ſea there appeare Aſteris and Prote. Before Zacynthus 35 miles full Eaſt, are the two Strophades, called by others Plotæ: and before Cephalenia, Letoia. Before Pylos three Sphagiæ, and as many before Meſſene, called Oenuſſæ. In the gulfe Aſinæus three Thyrides: in the Laconian gulfe, Teganuſa, Cothon, Cythera with the towne, named beforetime Porphyris. This lieth five miles from the promontorie Malea, daungerous for ſhips to come about it, by reaſon of the ſtreights there. In the Argolick ſea are Pityuſa, Irine and Ephyre:

and

and againſt the territorie Hermonium, Typarenus, Epiropia, Colonis, Ariſtera: over againſt G
Trœzenium Calauria, halfe a mile from Plateæ: alſo, Belbina, Lacia and Baucidias. Againſt Epidaurus, Cecryphalos, and Pytioneſos, ſixe miles from the Continent. Next to it is Ægina a free ſtate, 17 miles off, and for 20 miles they ſaile by it. The ſame is diſtant from Pyræum the port of the Athenians, 12 miles, and beforetime was uſually called Oenone. Againſt the promontorie Spiræum, there lie oppoſite Eleuſa, Dendros, two Craugiæ, two Cæciæ, Selachuſa, Cenchreis and Aſpis. Alſo in the Megarian gulfe, there be foure Methurides. As for Ægilia, it is 15 miles from Cythera, and the ſame is from Phalaſarna a towne in Creet 25 miles. And Creet it ſelfe, lying of one ſide to the South, and the other to the North, ſtretcheth forth in length Eaſt and Weſt; a famous and noble Iſland for a hundred cities in it. *Doſiades* ſaith it tooke that name of the nymph *Creta* daughter of *Heſperis*: but according to *Anaximander*, of a H
king of the Curetes. *Philiſtides*, *Mallotes*, *Crates*, have thought it was called firſt Æria, and afterwards Curetis, and ſome have thought it was named Macaros for the bleſſed temperature of the aire. In breadth it exceedeth in no place 50 miles, and in the middle part broadeſt it is: but in length it is full 270 miles: in circuit 589 miles: and winding it ſelfe into the Creticke ſea, ſo called of it, where it ſtretcheth out fartheſt Eaſtward, it putteth forth of it the promonterie Sammonium juſt againſt Rhodos, and Weſtward Criu-Metopon, toward Cyrenæ. The principall townes of marke, be Phalaſarnæ, Elæa, Cyſamum, Pergamum, Cydon, Minoum, Apteron, Pantomatrium, Amphimalla, Rhythymna, Panhormum, Cyteum, Apollonia, Matium, Heraclea, Miletos, Ampelos, Hiera-pytna, Lebena, Hierapolis. And in the midland parts, Cortyna, Phæſtum. Gnoſſus, Potyrrhenium, Myrina, Lycaſtus, Rhamnus, Lyctus, Dium, Aſum, Pyloros, Rhytion, Clatos, Pharæ. Holopyxos, Laſos, Eleuthernæ, Therapne, Marathuſa, Mytinos. And other townes about the number of 60, ſtand yet upon record. The hils bee Cadiſcus, Idæus, Dictæus, and Morycus. The Iſle it ſelfe, from the promontorie in it called Criu-Metopon, as *Agrippa* reporteth, is diſtant from Phycus, a promontorie of the Cyrene 225 miles. Likewiſe, from Capeſcum point, it is from Malea in Peloponneſus 80 miles. From the Iſland Carpathus, which lieth Weſtward from the cape Sammonia, 60 miles. This Iſland aforeſaid lieth betweene it and Rhodos. The reſt about it be theſe: before Peloponneſus two Coricæ, and as many Mylæ: and on the North ſide, when a man hath Creet on the right hand, there appeareth Leuce juſt againſt Cydonia, together with the two Budoræ, againſt Matium, Cia: againſt the Promontorie Itanum Oniſa and Leuce: againſt Hierapytna, Chryſa, and Caudos. In the ſame coaſt are Ophiuſſa, Butoa, and Rhanmus: and when men have fetched about and doubled the point Criu-Metopon, appeare the Iſles called Muſagores. Before the Promontorie Sammonium, Phocæ, Platiæ, Sirnides, Naulochos, Armedon and Zephyre. But in Hellas, yet ſtill in Ægeum, Lichades, Scarphia, Mateſa, Phocaria, and very many more over againſt Attica, but townleſſe, and therfore obſcure and of no reckoning: but againſt Eleuſin, the noble Salamis, and before it Pſytalia: and from Sunium, Helene five miles off: and Ceos from thence as many, which our countreymen have named Cæa: but the Greekes Hydruſſa, cut off and diſmembred from Eubœa. In times paſt it was 500 ſtadia long: but ſoone after, foure parts almoſt, namely, thoſe that butted upon Bœotia, eaten up by the ſame ſea: ſo as now the townes remaining that it hath, be Iulis and Carthæa. For Coreſſus and Pæceſſa are periſhed & gone. From hence as *Varro* ſaith, came the fine L
linnen cloth that women uſe: yea, and Eubœa it ſelfe hath beene plucked from Bœotia, and devided with ſo little an arme running betweene, that a bridge joineth the one to the other: evident it is to the eie, and well ſeene, by reaſon of two Promontories in the South ſide, to wit, Geneſtum, bending toward Attica, and Capharens to Helleſpontus: and one upon the North ſide, to wit, Cæneus. In no part thereof doth it extend broader than 40 miles: and no where doeth it gather in narrower than 20. But in length from Attica as farre as Theſſalie, it lieth along Bœotia 150 miles: and containeth in circuit 365. From Helleſpont, on Caphareus ſide, it is 225 miles. In times paſt renowned it was for theſe cities, Pyrrha, Porthmos, Neſos, Cerinthus, Oreum, Dium, Ædepſum, Ocha, Oechalia, now Calcis, over againſt which ſtandeth Aulis in the maine: but now, for Gereſtum, Eretria, Caryſtus, Oritanum, Artemiſium, the fountaine Arethuſa, the river M
Lelantum, the hote waters called Hellopiæ, it is of great name: but yet in more requeſt for the marble of Caryſtus. In former time it was called commonly Chalcodontis or Macris, as *Dionyſius* and *Ephorus* doe ſay: but Macra, according to *Ariſtides*: and as *Callidemus* would have it, Chalcis, for the braſſe there firſt found: and as *Menæcmus* ſaith, Abantias: and laſt of all Aſo-

pis,

A pis, as the Poets commonly name it. Without in the Myrtoum sea, be many Isles, but of greatest marke be Glauconnesus and Ægilia. And neere to the promontorie Gerestum about Delos certaine lying round together, whereupon they tooke their name Cyclades. The first and principall of them, Andrus with a towne, is from Gerestum tenne miles, and from Ceum 39. *Myrsilus* saith it was called Cauros, and afterwards Antandros. *Callimachus* nameth it Lasia, others Nonagria, Hydrussa and Epagris. It taketh in compasse 93 miles. A mile from the same Andros, and fifteene from Delos, lieth Tenos, with a towne fifteene miles in length: which, for the plentie of water *Aristotle* saith was called Hydrussa, but others name it Ophiussa. The rest bee these; Myconos with the hill Dimastos, fifteene miles from Delos. Scyros Syphnus, beforetime named Heropia and Acis, in circuit 28 miles about: Seriphus 12 miles, Præpesinthus, Cythnus. And
B Delos it selfe, of all others most excellent by far, as being the middest of all the Cyclades, much frequented for the temple of *Apollo*, and for merchandise and trafficke. Which having a long time floted up and downe (as it is reported) was the onely Island that never felt earthquake unto the time of *M. Varro*. *Mutianus* hath recorded that it was twice shaken. *Aristotle* giveth a reason of the name in this sort, because it was discovered, and appeared on a suddaine. *Æglosthenes* tearmeth it Cynthia: others Ortygia, Asteria, Lagia, Chlamydia, Cynethus, and Pyrpile, for that in it fire was found out first. It is but five miles about, and riseth up by the ascent of the hill Cinthus. Next to it is Rhene, which *Anticlides* called Celadussa, and *Helladius*, Artemite. Moreover, Syros, which auncient writers have written to be in circuit 20 miles, and Mutians, 160. Oliares, Paros, with a towne, 38 miles from Delos, of great name for the white marble there, which at first
C men called Pactia, but afterwards Minois. From it seven miles and an halfe is Naxus (eighteene miles from Delus) with a towne, which they called Strongyle, afterwards Dia, within a while Dionysias of the plentifull vines, and others, Sicilie the lesse, and Callipolis. It reacheth in circuit 75 miles, and is halfe as long againe as Paros. And thus farre verily they observe and note for the Cyclades: the rest that follow, for the Sporades. And these they be, Helenum, Phocussa, Phæcasia, Schinussa, Phalegandros, and seventeene miles from Naxos, Icaros: which gave name to the sea, lying out as farre in length with two townes, for the third is lost: beforetime it was called Dolichum, Macris and Ichtyoëssa. It is situate Northeast, from Delos 50 miles: and from Samos distant it is 35 miles. Betweene Eubœa and Andros there is a frith 12 miles over. From it to Gerestum is 112 miles and an halfe. And then no order forward can be kept. The rest therefore shall
D be set downe huddle by heapes. Ios from Naxus 24 miles, venerable for the sepulchre of *Homer*: it is in length 25 miles, and in former time called Phænice. Odia, Letandros, Gyaros with a town, 12 miles about. It is from Aneros 62 miles. From thence to Syrnus 80 miles. Cynethussa, Telos, famous for costly ointment, and called it is by *Callimachus*, Agathussa. Donysa, Pathmos in circuit 30 miles. Corasiæ, Lebinthus, Leros, Cynara, Sycinus, which beforetime was Oenoe, Heratia, the same that Onus, Casus otherwise Astrabe, Cimolus, *alias*, Echinussa, Delos with a towne, which *Aristides* nameth Byblis, *Aristotle* Zephyria, *Callimachus* Himallis, *Heraclides* Syphnus and Acytos. And this of all the Islands, is the roundest. After it Machia, Hypere sometime Patage, or after some Platage, now Amorgos, Potyægos. Phyle, Thera; when it first appeared, Callist it was called. From it afterwards was Therasia plucked: and betweene those twaine soone af-
E ter arose Automate, the same that Hiera: and Thia which in our daies appeared new out of the water neere Hiera. Ios is from Thera 25 miles. Then follow Lea, Ascania, Anaphe, Hippuris, Hippurissusa. Astipalæa of free estate, in compasse 88 miles: it is from Cadiscus, a promontorie of Creta, 125 miles. From it is Platea, distant 60 miles. And from thence Camina, 38 miles. Then Azibnitha, Lanise, Tragia, Pharmacusa, Techedia, Chalcia, Calydna, in which are the townes Coos and Olymna. From which to Carpathus, that gave the name to the Carpathian sea, is five and twentie miles: and so to Rhodes with a Southerne wind. From Carpathus to Casos, seven miles: from Casos to Samonium a promontorie of Crete, thirtie miles. Moreover, in the Euboike Euripe, at the first entrance well neere of it, are the foure Islands Petaliæ, and at the end thereof, Atalante, Cyclades, and Sporades: confined and enclosed on the East with the Ica-
F rian sea-coasts of Asia; on the West, with the Myrtoan coasts of Attica; Northward, with the Ægæan sea; and South, with the Creticke and Carthaginian seas: and take up in length two hundred myles. The gulfe Pagasicus hath before it, Eutychia, Cicynethus, and Scyrus aboveseid: but the utmost of all the Cyclades and Sporades, Gerontia, Scadira, Thermeusis, Irrhesia, Solinnia, Eudemia, Nea, which is consecrate to *Minerva*. Athos before it hath foure; Pepare-

thus

thus with a towne ſometime called Euonos nine miles off: Scyathus five miles: and Iulios with G
a towne 88 miles off. The ſame is from Maſtuſia in Corinthos 75 miles. And is it ſelfe in circuit
72 miles. Watered it is with the river Iliſſus. From thence to Lemnos 22 miles: and it from A-
thos 87. In compaſſe it containeth 22 miles and a halfe. Townes it hath, Hephæſtia and Myri-
na, into the market place whereof, the mountaine Athos caſteth a ſhadow in the hoteſt ſeaſon
of Summer. Thaſſos a free State, is from it five miles: in times paſt called it was Æria or Æthria.
From thence, Abdera in the Continent is twentie miles: Athos ſixtie two: the Ile Samothrace
as much, which is a free priviledged State, and lieth before Hebrus. From Imbrus two and thir-
tie myles: from Lemnus two and twentie miles and a halfe: from the coaſt of Thracia eight and
twentie myles: in circuit it is 32 myles: and hath a riſing of the hill Saoces for the ſpace of ten
myles: and of all the reſt is fulleſt of havens and harboroughs. *Callimachus* calleth it by the old H
name Dardania: betweene Cherrhoneſus and Samothrace is Halomeſus, about fifteene myles
from either of them: beyond lyeth Gethrone, Lamponia, Alopeconneſus not farre from Cœ-
los, an haven of Cherrhoneſus: and ſome other of no name or regard. In this ſea let us rehearſe
alſo the deſart and diſpeopled Ilands, ſuch as we can find out names for, to wit, Deſticos, Larnos,
Cyſſicos, Carbruſa, Gelathuſa, Scylla, Draconon, Arconeſus, Diethuſa, Scapos, Capheris, Me-
ſate, Æantion, Phateruneſos, Pateria, Calete, Neriphus and Polendus.

The fourth of thoſe great ſeas in Europe, beginning at Helleſpont, endeth in the mouth of
Mœotis. But briefly we are to deſcribe the forme of the whole ſea, to the end that the parts may
be ſooner and more eaſily knowne. The vaſt and wide Ocean lying before Aſia, and driven out
from Europe in that long coaſt of Cherſoneſus, breaketh into the maine with a ſmall and nar- I
row iſſue, and by a Firth of ſeven ſtadia (as hath been ſaid) divideth Europe from Aſia. The firſt
ſtreights they call Helleſpontus. This way *Xerxes* the king made a bridge upon ſhips, & ſo led his
armie over. From thence there is extended a ſmall Euripus or arm of the ſea for 86 miles ſpace,
to Priapus a citie of Aſia, wheras *Alexander* the great paſſed over. From that place the ſea grow-
eth wide and broad, and againe gathereth into a ſtreight: the largeneſſe thereof is called Pro-
pontis; the ſtreights, Boſphorus, halfe a mile over: and that way *Darius* the father of *Xerxes*
made a bridge over, and tranſported his forces. The whole length of this from Helleſpont is 239
miles. From thence the huge maine ſea called Pontus Euxinus, and in times paſt Axenus, ta-
keth up the ſpace betweene lands farre diſſite and remote aſunder, and with a great winding and
turning of the ſhores, bendeth backward into certaine horns, and lyeth out ſtretched from them K
on both ſides, reſembling evidently a Scythian bow. In the very mids of this bending, it joyneth
cloſe to the mouth of the lake Mœotis. And that mouth is called Cimmerius Boſphorus, two
miles and a halfe broad. But betweene the two Boſphori, Thracius and Cimmerius, there is a
direct and ſtreight courſe betweene, as *Polybius* ſaith, of 500 myles. Now the whole circuit of
all this ſea, as *Varro* and all the old writers for the moſt part doe witnes, is 2150 miles. *Nepos Cor-
nelius* addeth thereto 350 miles mores. *Artemidorus* maketh it 2919 miles. *Agrippa* 2360 miles.
Mutianus 2865 miles. In like ſort, ſome have determined & defined the meaſure on Europe ſide,
to be 4078 miles and a halfe: others 11072 miles. *M. Varro* taketh his meaſure in this manner:
From the mouth of Pontus to Apollonia, 188 miles and a halfe: to Calatis as much. Then to
the mouth of Iſter 125: to Boryſthenes 250: to Cherrhoneſus, a towne of the Heracleates, 375 L
miles. To Panticapæus, which ſome call Boſphorus, the utmoſt coaſt of Europe, 222 miles and
a halfe: which being put in a groſſe ſumme together, 1336 miles and a halfe. *Agrippa* meaſu-
reth thus: from Bizantium to the river Iſter 560 miles: then to Panticapæum 630: from thence
the very lake Mœotis taking into it the river Tanais, running out of the Rhiphæan hils, is ſup-
poſed to beare the compaſſe of 1306 miles, beeing the furtheſt bound betweene Europe and
Aſia. Others againe make 11025 miles. But ſurely from his mouth to the mouth of Tanais, and
take a ſtreight courſe, it is 375 miles without queſtion. The inhabitants of that coaſt, have been
named in the deſcription and mention of Thrace, as farre as to Iſtropolis: now from thence,
the mouthes of Iſter. This river ariſing among the hills of Abnoba, a mountaine of Germanie,
over-againſt Rauricum a towne in Gaule, paſſing many a mile beyond the Alpes, and through M
innumerable nations under the name of Danubius, with a mightie encreaſe of waters, & where
he firſt beginneth to waſh Illyricum, taking the name of Iſter after he hath received ſixtie rivers,
and the one halfe of them well-neare navigable, rolleth into Pontus with ſixe huge ſtreames.
The firſt mouth of it is Peuces: ſoone after the Iland it ſelfe Peuce, of which the next channell

tooke

A tooke name, and is ſwallowed up of a great miere of of 19 miles. Out of the ſame channell and above Aſtropolis, a poole is bred of 63 miles compaſſe, which they call Halmyris. The ſecond mouth is called Naracuſtoma: the third Caloſtoma, neare the Iland Sarmatica: the fourth Pſeudoſtoma, and the Iland Conopon Diabaſis. After that, Boreoſtoma, and Spireoſtoma. Each of theſe are ſo great, that by report the ſea for 40 miles length within it is over-matched with the ſame, and the freſh water may ſo farre be evidently taſted. From it, into the inland parts of the countrey, the people verily be all Scythians: but divers other nations there be that inhabite the coaſts next to the ſea: in ſome places the Gete, called of the Romanes Daci: in others Sarmatæ, of the Greekes Sauromatæ; and among them, the Hamaxobij or Aorſi. Elſewhere, the baſtard and degenerate Scythians, who are come from baſe ſlaves, or elſe the Troglodites:
B and anon the Alani and Rhoxalani. But the higher parts betweene Danubius and the forreſt Hercynius, as farre as to the Pannonian wintering harbours of Carnuntum, and the confines there of the Germans, the fielden country alſo & plains of Iazyge, the Sarmatians poſſeſſe. But the hills and forreſts, the Dakes who were expelled by them, doe inhabite as farre as to the river Pathyſſus from Marus; or peradventure it is Duria, dividing them from the Suevians and kingdome of Vannians. The parts againſt theſe, the Baſtarnæ doe keepe; and from thence, other Germani. *Agrippa* hath ſet down that whole tract from Iſter to the Ocean, to amount unto 2000 miles, and 400 leſſe in breadth, to wit, from the deſerts of Sarmatia to the river Viſtula. The name of Scythians every where continually runneth into Sarmatians and Germanes. Neither hath that old denomination remained in any others but thoſe, who (as I have ſaid) live fartheſt off
C and in the edge of theſe nations, unknowne in manner to all men beſides. But the townes next to Iſter are Cremniſcos, and Æpolium: the mountaines Macrocrennij: the noble river Tyra, giving name to the towne, whereas before-time it was called Ophiuſa. Within the ſame there is a ſpatious Iland, inhabited by the Tyragetæ. And it is from Pſeudoſtomum, a mouth of Iſter, 130 miles. Soone after be the Axiacæ, bearing the name after the river: beyond whom are the Crobyzi: the river Rhode: the creeke Sagaricus, and the haven Ordeſus. And 120 myles from Tyra, is the great river Boryſthenes; alſo a lake and people of that name: yea and a towne 15 miles within from the ſea, called by auncient names Olbropolis, and Miletopolis. Againe, in the ſea ſide, the haven or harbour of the Achæans: the Iland of *Achilles*, famous for the tombe of that worthie wight. And from it 135 miles, there is a demie Iland lying out acroſſe in faſhion
D of a ſword, called Dromos Achilleos, upon occaſion of his exerciſe there of running: the length whereof *Agrippa* hath declared to be 80 miles. All that tract throughout, the Tauriſci, Scythians, and Sarmatians doe inhabite. Then the wild woodland countrey gave the name unto the ſea Hylæum, which beateth hard upon it: the inhabitants are called Enæcadloæ. Beyond, is the river Panticapes, which divideth the Nomades and Georgians aſunder: and ſoone after, Acefinus. Some writers doe ſhew, that Panticape togither with Boryſthenes, runne togither in one confluent beneath Olbia, but they that write more exactly, doe name Hypanis. See how much they erred, who have deſcribed it in a part of Aſia. It entreth into the ſea with a mightie great ebbe and returne of the water, untill it be within five miles of Mœotis, compaſſing as it goeth a mightie deale of ground, and many nations. Then there is a gulfe or arme of the ſea cal-
E led Corcinites, and a river Pacyris. Townes, Naubarum and Carcine. Behind, is the lake Buges, let out into the ſea by a great ditch. And Buges it ſelfe from Coretus (an arme or braunch of the lake Mœotis) is disjoyned, with a backe part full of crags and rockes. Rivers it receiveth, Buges, Gerrhus, Hypanis, comming all from divers quarters: for Gerrhus parteth the Baſilides and Nomades. Hypanis, through the Nomades and the Hyleans, falleth into Buges by a channell made by mans hand, but in his owne naturall channell into Coretus. The region of Scythia is named Sendica. But in Carcinites, Taurica beginneth: which alſo in times paſt was environed all about with the ſea, whereſoever now there lie plaines and flat fields. But afterwards it mounteth up with huge hilles. Thirtie nations there be in it: and of them 24 be Inlanders. Six townes,
F Orgocyni, Caraſeni, Aſſyrani, Tractari, Archilachitæ, and Caliordi. The very pitch and creſt of the hill, the Scytotauri doe hold. Bounded they are Weſtward, with Cherroneſus; Eaſtward with the Scythian Satarchi. In the coaſt next to Carcinites are theſe townes; Taphræ, in the very ſtreights of the demie Iland: then, Heraclea, Cherroneſos, endowed with franchiſes by the Romanes. Aforetime it was called Megarice, and is the moſt civile and faireſt of all the reſt of that tract, as retaining ſtill the names and faſhions of the Greekes, and is beſides compaſſed with a

wall

wall of five miles about. Then, the promontorie Parthenium. A citie of the Tauri, Placia. The G
haven Symbolon: the promontorie Criu-metopon, over-against Charambes a promontorie
of Asia, running through the middle of Euxinus, for the space of 170 miles: which is the cause
especially that maketh the forme aboveſaid of a Scythian bow. Nere to it, are many havens and
lakes of the Tauri. The towne Theodosia, distant from Criu metopon 122 myles, and from
Chersonesus 165 miles. Beyond, there have been townes, Cyte, Zephyrium, Acre, Nymphæum,
and Dia. And the strongest of them all by many degrees, standeth yet still in the very entrie of
Bosphorus, namely, Panticapæum of the Milesians, from Theodosia 1035 miles: but from
Cimmerum, a towne situate beyond the Firth, a mile and a halfe as we have said. And this is all
the breadth there that divideth Asia from Europe: which sometime is passeable over most-what
on foot, namely when the Firth is frozen and all an yce. The breadth of Bosphorus Cimmerius, H
is 12 miles and a halfe. It hath upon it these townes, Hermisium, Myrmecium; and within it, an
Iland Alopece. But along Mœotis from the farthest narrow land passage, which place is called
Taphræ, unto the mouth of Bosphorus, it containeth 260 miles. On Taphræ side, the Conti-
nent within-forth is inhabited by the Anchetæ, among whome Hypanis springeth: and Neuri,
where Borysthenes hath his head. Moreover, the Geloni, Thussagetæ, Budini, Basilidæ, and
the Agathyrsi, with blew haire on their heads. Above them, the Nomades, and the Anthropo-
phagi. On Buges side above Mœotis, the Sauromates and Essedones dwell. But along the bor-
ders even as farre as Tanais, the Mœotæ, of whome the lake was so called, and the utmost on
their backes the Arimaspi. Within a little appeare the Rhiphæan hils, and a countrey called Pte-
rophoros, for the resemblance of certaine wings or feathers, occasioned by the continuall fall of I
snow. A part of the world thus is condemned by dame Nature, and drowned in deepe and thick
darkenesse, dwelling within no other houses but the workes of frozen cold, and the ycie harbours
of the chilling Northerne wind. Behind those hilles and beyond the North pole, there is a bles-
sed and happie people (if wee may beleeve it) whom they call Hyperborei, who live exceeding
long, and many fabulous and strange wonders are reported of them. In this tract are supposed to
be the two points or poles about which the world turneth about, and the verie ends of the hea-
vens revolution. For six moneths together they have one entire day; and night as long, when the
Sunne is cleane turned from them: but their day beginneth not at the spring Æquinoctiall (as
the leaud and ignorant common people doe imagine) and so continueth to the Autumne: for
once in the yeere, and namely at our mid-summer when the Sun entreth into Cancer, the Sunne K
riseth with them: and once likewise it setteth, even in mid-winter with us, when the Sunne en-
treth Capricorne. The countrey is open upon the Sunne, of a blissefull and pleasant tempera-
ture, void of all noisome wind and hurtfull aire. Their habitations be in woods and groves, where
they worship the gods both by themselves, and in companies and congregations: no discord
know they; no sickenesse are they acquainted with. They never die, but when they have lived long
enough: for when the aged men have made good cheere, and annointed their bodies with sweet
ointments, they leape from off a certaine rocke into the sea. This kind of sepulture, of all others
is most happie. Some Writers have seated them in the first part of the sea-coasts in Asia, and
not in Europe, for that indeed some be there resembling the like manners and customes, and
even so situate, named Atocori. Some have set them just in the mids betweene both Sunnes, to L
wit, the setting of it with the Antipodes, and the rising of it with us: which cannot possibly be,
considering so vast and huge a sea comming betweene. As for those that have placed them no
where but in the sixe moneths day-light, have written thus much of them, That they sow in the
morning, reape at noone, at sun-setting gather the fruits from the trees, and in the nights lye
close shut up within caves. Neither may we make doubt of that nation, since that so many Au-
thors doe testifie, That they were wont to send the first fruits of their corne, as farre as Delos to
Apollo, whome above all others they honour. And virgins they were that had the carriage of this
present; who for certaine yeeres were venerable, and courteously entertained of all nations, un-
till such time as upon breach of faithfull hospitalitie, they tooke up an order to bestow those sa-
cred oblations in the next marches of their neighbour borderers: and they againe to conveigh M
the same to their neighbours that confined upon them, and so forward as farre as to Delos. But
soone after, this custome was for-let and cleane given over. The length of Sarmatia, Scythia,
and Taurica, and of all that tract from the river Borysthenes, is 980 myles, the breadth 717, as
M. Agrippa hath cast it. But I for my part suppose, that the measure of this part of the earth is
uncertaine,

A uncertaine. But after the order which we have begun, let us go forward with the reſt behind of all this Diviſion: as for the petie ſeas theteof, we have verily ſhewed them alreadie.

Chap. xiii.

The Ilands Ponius.

HElleſpont hath no Ilands to be ſpoken of, in Europe. In Pontus are two, a mile and a halfe from Europe, and 14 miles from the mouth of the river, to wit, Cyaneæ, of others called Symplegades; and by report of fables, they ran one into another: the reaſon was, becauſe they being ſevered by a ſmall ſpace between, to them that enter the ſea full upon them, they ſeeB med twaine: but if they turned their eye a little aſide from them, they made a ſhew as if they met together. On this ſide Iſter there is one, pertaining to the Apolloniates, 80 miles from Boſphorus Thracius, out of which *M. Lucullus* brought *Apollo Capitolinus*. What were within the mouthes of Iſter, we have declared alreadie. Before Boryſthenes, is the abovenamed Achillea, the ſame is called Leuce and Macaron. This, our moderne Coſmographers in theſe dayes doe ſet 140 myles from Boryſthenes: from Tyra 120: from the Iland Peuce 50. It is in compaſſe about, ten miles. The reſt be in the gulfe Carcinites, namely Cephalonneſos, Rhoſphoduſa, and Macra. I cannot paſſe by the opinion of many writers, before we depart from Pontus, who have thought that all the inland ſeas or Mediteranen, ariſe from that head, and not from the ſtreights of Gades: and they lay for their ground an argument not without ſome good probabilitie, beC cauſe out of Pontus the ſea alwaies floweth, and never ebbeth againe.

But now wee are to depart from thence, that other parts of Europe may be ſpoken of: and when we are gone over the Rhiphœan hills, we muſt paſſe along cloſe to the North Ocean, and keepe the left hand untill we come to Gades. In which tract, there are reported to be very many Ilands without names: of which, by the report of *Timæus*, there is one before Scythia called Bannomanna, diſtant from Scythia one daies ſailing: into which, in the temperate ſeaſon of the ſpring, Amber is caſt up to the ſhore by the waves of the ſea. All the other coaſts are no otherwiſe marked and knowne, but by uncertaine here-ſay. The North Ocean from the river Paropamiſus, whereas it daſheth upon Scythia, *Hecatæus* nameth Amalchium, which word in the language of that nation, ſignifieth Frozen. *Philemon* writeth, that the Cimbrians call it Morimaruſa, *i. Mortuum mare*, [the dead ſea:] even as farre as to the promontorie Rubeæ: but all beyond forward, Cronium. *Xenophon Lampſacenus* ſaith, That three dayes ſailing from the Scythian coaſt, there is the Iland Baltia, of exceeding greatnes. The ſame doth *Pythias* name Baſilia. There be alſo named the Iles Oonæ, wherein the inhabitants live of birds egges and otes. Others alſo, wherein men are borne with horſe feet, called thereupon Hippopades. Others againe of the Panoti, who being otherwiſe naked, have mightie great eares that cover their whole bodies. And now forward we begin at the nation of the Ingevoni, the firſt of all the Germanes in thoſe parts, to diſcover all upon more ſure and evident report. There is the exceeding great mountain Sevo, not inferiour to the high hills Riphæi, which maketh a mightie huge gulfe, even as farre as to the Cimbrians promontorie, called Codanus, and full it is of Ilands; of which, the goodlieſtE of all is Scandinavia, the bigneſſe whereof is not yet diſcovered. A part onely thereof, as much as is knowne, the nation of Helleviones doth inhabite in 500 villages, and they call it, A ſecond world. And as it is thought, Enigia is not leſſe a jote. Some ſay, that theſe parts as farre as to the river Viſtula, is inhabited by the Sarmatians, Venetians, Scyrians, and Hirrians: alſo that the gulfe of the ſea is called Clylipenus: and that in the mouth or entrance of it is the Iland Latris. Alſo that not farre from it, there is another arme of the ſea bounding upon the Cimbrians. The promontorie of the Cimbrians ſhooting farre into the ſeas, maketh a demy Iland, which is called Cartris. From which coaſt, three and twentie Ilands have been diſcovered and knowne by the Romane armies. The nobleſt of them be Burchana, called of our countrey-men Fabaria, of the plentie of a pulſe (called Beanes) growne there of it ſelfe unſowne. Likewiſe GleſſaF ria, ſo called by the ſouldiers, of Amber; but of the barbarous people, Auſtrania: and beſides them Actania. Along this ſea-coaſt, untill you come to the river Scaldis, the Germane nations do inhabite: but the meaſure of that tract cannot eaſily be declared, ſuch unmeaſurable diſcord and difference there is among writers. The Greeks and ſome of our owne country have delivered the coaſt of Germanie to be 2500 miles about. *Agrippa* again joining with it Rhetia & Noricum,

ſaith, That it is in length 686 miles, and in breadth 268. And verily of Rhœtia alone, the bredth well-nere is greater, at leaſt-wiſe at the time that it was ſubdued, and the people departed out of Germanie: for Germanie many years after was diſcovered, and yet not all of it knowne throughly. But if it be lawfull to gueſſe, there will not be much wanting in the coaſts and compaſſe, according to the opinion of the Greekes; nor in the length ſet downe by *Agrippa*. G

Chap. xiiii.

Germanie.

OF Germanes, there be five kinds. The Vindili, part of whome be the Burgundians, Varini, Carini, and Gurtones. A ſecond ſort, the Ingævones, part of whome be the Cimbri, Teutoni, and people of the Cauchi. The next to them be the Iſtævones, and part of them be the Cimbri. Then the midlanders, the Hermiones, among whome are the Suevi, Hermunduri, Chatti, and Cheruſci. The fift, are the Peucini, and Baſternæ, bordering upon the above-named Dacæ. Faire rivers that run into the Ocean, to wit, Guttalus, Viſtillus or Viſtula, Albis, Viſurgis, Amiſius, Rhenus, Moſa. And withinforth the Hircynium hill, inferiour to none in eſtimation, ſtandeth to guard and encloſe them. H

Chap. xv.

Ilands in the Gaules Ocean.

VPon the very Rhene it ſelfe, for an hundred myles almoſt in length, lyeth the moſt noble Iland of the Batavi, and Cannenufates: as alſo others of the Friſians, Cauchians, Friſiabones, Sturij, and Marſalij, which are ſpread within Helius and Flevus. For ſo be the mouthes, into which Rhenus guſhing, divideth it ſelfe: and is diſcharged from the North into certaine lakes: from the Weſt, into the river Moſa. But in the middle mouth betweene, he beareth a ſmall current and channell, and keepeth his owne name. I

Chap. xvi.

England, and Ireland.

OVer againſt this tract, lyeth Britannia, between the North and the Weſt: an Iland renowmed both in Greeke and Romane records. Oppoſite it is unto Germanie, Gaule, and Spaine, the greateſt parts by farre of all Europe, and no ſmall ſea betweene. Albion it was ſometime named, when all the Ilands were called Britanniæ, of which anon wee will ſpeake. This Iland is from Geſſoriacum, a coaſt towne of the Morini, fiftie miles, and take the next and ſhorteſt cut. In circuit, as *M. Pitheas* and *Iſidorus* report, it containeth 3825 miles. And now for theſe 30 yeares well neare, the Romane captaines grow into farther knowledge thereof, and yet not beyond the forreſt Caledonia, as neere as it is. *Agrippa* ſuppoſeth, that it is in length 800 miles, and in breadth 300. Alſo that Ireland is as broad, but not ſo long by 200 miles. This Iland is ſeated above it, and but a very ſhort cut or paſſage diſtant from it, to wit, 30 miles from the people Silures. Of other Ilands in this Ocean, there is none by report, in compaſſe more than 125 myles. Now there be Orcades 40, divided aſunder by ſmall ſpaces betwene: Acmodæ 7, and 30 Hæbudes. Alſo betweene Britaine and Hibernia, Mona, Monapia, Ricnea, Vectis, Silimnus, and Andros: but beneath them, Siambis and Axantos: and on the contrarie ſide toward the Germane ſea, there lye ſcattering the Gleſſariæ, which the later Greeke writers have named Electrides, for that Amber there, was engendred and bred. The fartheſt of all, which are known and ſpoken of, is Thule; in which there be no nights at all, as we have declared, about mid-ſummer, namely when the Sunne paſſeth through the ſigne Cancer; and contrariwiſe no daies in mid-winter: and each of theſe times they ſuppoſe, doe laſt ſixe moneths, all day, or all night. *Timæus* the Hiſtoriographer ſaith, That farther within-forth, and ſix dayes ſailing from Britaine, there lyeth the Iland Mictis, in which white lead groweth: and, that the Britaines doe ſaile thither in winter veſſels covered with leather round about and well ſowed. There be that make mention of others beſide, to wit, Scandia, Dumna, and Bergos, and the biggeſt of all the reſt Nerigos, from which men ſaile to Thule. Within one daies ſailing from Thule, is the frozen ſea, named of ſome Cronium. K L M

Chap.

A

Chap. xvii.

☞ *Gallia.*

All Gallia, by one name called Comata, is divided into three kinds of people, and those severed one from the other by rivers especially: to wit, Belgica, from Scaldis to Sequana: Celtica, from it to Garumna; and this part of Gallia is named Lugdunensis. From thence to the lying out of the mountaine Pyrenæus, Aquitania, called beforetime Aremorica. *Agrippa* hath made this reckoning and computation of all Gaule generally, to wit, lying between Rhene, Pyrenæus, the Ocean, and the hils Gebenna and Iura; wherby he excludeth Narbonensis Gallia, that is in length 420 myles, and in breadth 313. Next to Scaldis, there inhabited the utmost borders, the Toxandri, under many names. Then the Menapij, Morini, and Oromansici, joyning upon that tract or territorie which is called Gessoriacus. the Brinanni, Ambiani, Bellonici, and Hassi. But farther within-forth, the Castologi, Atrebatis, and Nervij, free states. The Veromandui, Sueroni, and Suessiones, likewise free. The Treviri free beforetime: the Lingones confederates: the Remi confederate also: the Mediomotrici, the Sequani, the Raurici, and Helvetij. Colonies twaine, Equestris, and Rauriaca. Moreover, of Germane nations in the same province that dwell neere Rhene, the Nemetes, Trivochi, and Vangiones: then the Vbij, Colonia, Agrippensis, Gugerni, Batavi, and those whome we spake of in the Ilands of Rhene.

B

C

Chap. xviii.

☞ *Lugdunensis Gallia.*

Lvgdunensis Gallia, containeth the Lexovij, Velocasses, Galleti, Veneti, Abricatui, Osismij, and the noble river Ligeris: but a more faire and goodly demy-Iland, running foorth into the Ocean, from the very marches of the Osismij, having in circuit 625 miles: with the necke therof 125 miles broad. Beyond it, dwell the Nannetes: within-forth the Hœdni confederates, the Carnuti likewise confederates, the Boij, the Senones, the Aulerici, surnamed Eburovices, and the Cenomannes and Meldi, free states. Parrhisij, Trecasses, Andegani, Viducasses, Vadicasses, Vnelli, Carioselites, Drabhudi, Rhedones, Turones, Itesui, and Secusiani, free states, in whose countrey standeth the Colonie Lugdunum.

D

Chap. xix.

☞ *Aquitania.*

To that province of Gaule which is called Aquitania, belong the Ambilatri, Anagnutes, Pictones, the Santones, Bituriges, named also Vibisci, Aquitani, whereof the province tooke name, and the Sediboniates. Then such as were enrolled into townships from divers parts, to wit, Begerri, Tarbeli, who came under 4 ensigns, Cocossati, under 6 ensigns, Venami, Onobrisates, Belendi, and the forrest Pyrenæus. Beneath them, Monesi, Osquidiales, Mountainers, Sibyllates, Camponi, Bercorates, Bipedimui, Sassumini, Vellates, Vornates, Consoranni, Ausci, Elusates, Sottiates, Osquidates in the champion and plaine countrey, Succasses, Latusates, Basabocates, Vassei, Sennates, Cambolectri, Agesinales joyning to the Pictones. Then the Bituriges free, who are also called Cubi. Next to them, Lemovires, Arverni free, and Gabales. Againe, those that confine and border upon the province Narbonensis, the Ruthenes, Caduni, Autobroges, and the Petrogori divided from the Tolosanes by the river Tarme. Seas about the coasts, upon Rhene the North Ocean: betweene it and Sequana, the Britaine Ocean: between it and Pyrenæus, the Gaule Ocean. Ilands many, to wit, of the Veneti, which be called also Veneticæ: and in the gulfe of Aquitane, Vliarus.

E

Chap. xx.

☞ *The hither province of Spaine.*

At the Promontorie of Pyrenæus beginneth Spaine; narrower not onely than Gaule, but also than it selfe (naturally) so huge a quantitie is wrought into it, whiles the Ocean of the one coast, the Iberian sea on the other, do cling and presse the sides togither. The very hils

F

of Pyrenæus, which from the East ſpread all the way to the Southweſt, make Spaine ſhorter on G
the North ſide than the South. The next marches of this higher province is the ſame that the tract of Tarracon, namely from Pyrenæus along the Ocean, the forreſt and mountaines of Vaſcones. And firſt in this part you find theſe townes: namely in the countrey of the Varduli, Olarſo, Moroſgi, Menoſca, Veſperies, the port-towne Amanum, where now is Flaviobriga, and a colonie of nine citties. The region of the Cantabri, the river Sada, the port town of Victoria, inhabited by the Iuliobrigenſes. From that place the fountaines of Iberus fortie miles. The haven Biendium, the Origeni entermingled with the Cantabri. Their havens, Veſei and Veca: the countrey of the Aſtures, the towne Nœga, in the demie Iſland Peſicus. And then the Countie Lucenſis, and ſo from the river Navilubio, the Cibarci, Egovarri ſurnamed Namarini, Iadoni, Arrotiebæ, the Promontorie Celticum. Rivers, Florius and Nelo. Celtici ſurnamed Neriæ: and above H
them the Tamarici, in whoſe demie Iſland are three altars called Seſtianæ, dedicated to *Auguſtus*, Cœpori, and the towne Nœla. The Celtici ſurnamed Præſamarci, and Cileni. Of Iſlands worth the naming, Corticata and Aunios. From the Cileni, the Countie towne of the Bracæ, Heleni, Gravij, the caſtle Tyde, all deſcended from the Greekes. The Iſlands Cicæ, the faire town Abobrica, the river Minius with a broad or wide mouth foure miles over, the Leuni, Seurbi, Auguſta a towne of the Bracæ: and above them, Gallæcia, the river Limia. Alſo the river Durius, one of the greateſt in Spaine, ſpringing in the Pelendones countrey, and running hard by Numantia: and ſo on, through the Arevaci and Vaccæi, dividing the Vettones from Aſturia, and the Gallæcians from Luſitania: and there alſo it keepeth off the Turduli from the Bracari. All this region aboveſaid from Pyrenæus, is full of mettall mines, to wit, gold, ſilver, yron, lead, as wel I
blacke as white, *i.* tinne.

Chap. xxi.

Luſitania.

AT the river Durius beginneth Luſitania, wherein are Turduli the old, Peſuri, the river Vacca. The towne Talabrica, the towne and river Minium. Townes, Conimbrica, Oliſſippo, Eburo, Britium. From whence there runneth out into the ſea with a mightie cape the Promontorie, which ſome have called Artabrum; others, the Great; and many, Oliſſoponenſe of the K
towne, making a diviſion of land, ſea, and aire above. In it is the ſide of Spaine determined and bounded, and from the compaſſe of it beginneth the forefront thereof.

Chap. xxii.

Iſlands in the Ocean.

OF the one hand is the North and the Gaules Ocean: on the other, the Weſt and the Atlanticke Ocean. The ſhooting forth of the Promontorie aforeſaid, ſome have reported to be 60 miles, others 90. From thence to Pyrenæus, there be writers not a few, who ſay it is 1250 miles, and that there is a nation of the Atabri, which never was, with a manifeſt errour. For they have ſet in this place by exchanging ſome letters the Artotrebæ, whome wee named before L
the promontorie Celticum. They have erred alſo and miſſed in certaine famous rivers. From Minius abovenamed (as *Varro* ſaith) Æminius is 200 miles diſtant (which ſome men take to bee elſewhere, and call it Limæa) named of men in old time Oblivionis, and whereof goeth many a tale. From Durius to Tagus it is 200 miles, and commeth betweene. This Tagus is a river much renowned for the ſand that yeeld gold. 160 miles from it, the promontorie Sacrum runneth out from the middle front in manner of Spaine: and 14 miles *Varro* ſaith it is from it to the mids of Pyrenæus. But from Ana, by which we have ſeperated Luſitania from Bætica, 226 miles: adding thereto from Gades 102 miles. Nations, Celtici, Varduli, and about Tagus, the Vettones. From Ana to Sacrum, the Luſitanes. The memorable townes, from Tagus in the coaſt ſide, Oliſippo, of good note for the Mares that conceive there by the Weſt wind. Salacia with the addition of M
Vrbs Imperatoria, and Merobrica: the Promontorie Sacrum, and another called Cæneus. Townes, Oſſonoba, Balſa, and Myrtius. The whole province is divided into three counties or judiciall courts of Aſſiſes, Emeritenſis, Pacenſis and Scalabitanus. It containeth in all five and fortie States, wherein be five Colonies, one burrough towne of Romane cittizens, three enfranchiſed

A chiſed with the liberties of old Latium. Stipendiaries or Tributaries, ſixe and thirtie. Moreover, the Colonies bee thus named, Auguſta Emerita: and upon the river Ana, Metallinenſis, Pacenſis, Norbenſis, which is named alſo Cæſariana. To it are laid and enrolled Caſtra Iulia and Caſtra Cæcilia. The fift is Scalabis, called Præſidium Iulium. The free borough of Romane cittizens Olyſſippo, named alſo Felicitas Iulia. Towns of the old Latium libertie, Ebora, which likewiſe was called Liberalitas Iulia: Myrtilis alſo and Salatia which wee have ſpoken of. Of Tributaries, ſuch as I am not loth to name, beſide the aboveſaid in the additions of Bætica, Auguſtobrigenſes, Ammienſes, Aranditani, Axabricenſes, Ballenſes, Cæſarobricenſes, Caperenſes, Caurenſes, Colarni, Cibilitani, Concordienſes, the ſame that Bonori, Interauſenſes, Lancienſes. Mirobrigenſes ſurnamed Celtici, Medubricenſes, the ſame that Plumbarij, Ocelenſes who
B alſo are Lancienſes, Turtuli, named Barduli and Tapori. *M. Agrippa* hath written, that Luſitania, together with Aſturia and Gallæcia, is in length 540 miles, and in breadth 526. But all Spain from the two Promontories of Pyrenæus along the ſeas, taketh up in circuit of the whole coaſt 2900 miles, and by others, 2700. Over against Celtiberia bee very many Iſlands, called of the Greekes Caſſiterides, for the plentie of lead which they yeeld: and juſt against the promontorie of the Arrotrebæ, ſixe named Deorum [*i.* of the gods] which ſome have called Fortunatæ. But in the very point or cape of Bætica, from the mouth of the ſtrith, 75 miles, lieth the Iſland Gades, twelve miles long, as *Polybius* writeth, and three miles broad. It is from the maine, where it is neereſt, leſſe than *700 paces, in other parts above 7 miles. The whole Iſland it ſelfe containeth *Leſſe than ¾ quarters of a mile.
C the ſpace of fifteene miles in circuit. It hath within it a towne of Romane cittizens named Auguſta, Vrbs Iulia Gaditania. On that ſide that regardeth Spain, within 100 paces, there lieth another Iſland, three miles long, and a mile broad, wherein beforetime was the towne of Gades. The name of this Iſland, after *Ephorus* and *Philiſtides*, is Erythia: but according to *Tymæus* and *Silenus*, Aprodiſias: the naturall home bred inhabitants call it Iunonis. The bigger of theſe two Gades, as *Timæus* ſaith, was by them called Cotinuſa, our countreymen name it Tarteſſos, the Carthaginians * Gadir, which in the Punicke language ſignifieth *the number of ſeven. Erythia *Or Gadiz. *Septem, or, as ſome read, Septum, i.* a parke or enclоſure.
the other was called, becauſe the Tyrians, who were the firſt inhabitants, were reported to have had their firſt beginning out of the red ſea Erythræum. Some thinke that *Geryon* here dwelt, hee whoſe droves of cattell *Hercules* had away. There bee againe that thinke how it is another, overagainſt Luſitania, and there ſometime ſo called.
D

Chap. XXIII.

The meaſure of all Europe.

HAving finiſhed our circuit about Europe, we muſt now yeeld the totall ſumme and complete meaſure of it in the whole, that ſuch as are deſirous of knowledge, bee not to ſeeke in any one thing. *Artemidorus* and *Iſidorus* have ſet downe the length thereof from Tanais to Gades 84014 miles. *Polybius* hath put downe the breadth of Europe, from Italie to the Ocean 1150 miles, for as then the largeneſſe thereof was not knowne. Now the very breadth of Italie alone by it ſelfe (as we have ſhewed) is 1220 miles to the Alpes: from whence by Lions to
E the Brittaine part of the Morini, which way *Polybius* ſeemeth to take his meaſure, is 1168 miles. But the more certaine meaſure and the longer is directed from the ſaid Alpes to the Weſt and the mouth of the Rhene, through the place called Caſtra Legionum Germaniæ, 1243 miles. Now from hence forward will we deſcribe Affricke and Aſia.

THE FIFTH BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

❧ *The description of Affrike.*

AFfrike the Greekes have called Lybia, even all that tract from whence the Lybian sea before it beginneth, and endeth in the Ægyptian. No part of the earth receiveth fewer gulfes and armes of the sea in that long compasse of crooked coasts from the West. The names as well of the nations as townes there, be of all others most hard to bee pronounced, unlesse it bee in their owne tongues: and againe, they bee castles and forts for the most part that they dwell in.

CHAP. I.

❧ *Mauritania.*

AT the beginning, the lands of Mauritania, untill the time of *C. Cæsar* [*i. Caligula*] sonne of *Germanicus*, were called kingdomes: but by his crueltie devided it was into two provinces. The utmost promontorie of the Ocean is named of the Greekes Ampelusia. The townes therin were Lissa and Cotes beyond *Hercules* pillars. Now in it is Tingi, sometime built by *Antæus*: and afterwards by *Claudius Cæsar* when he made a Colonie of it, called it was Traducta Iulia. It is from Belone a town in Bætica, by the next and neerest passage over sea thirtie miles. Five and twentie miles from it in the Ocean coast standeth a Colonie erected by *Augustus*, now Iulia Constantia, exempt from the dominion and jurisdiction of the kings of Zilis: and commanded to goe for law and justice as farre as to Bætica. And two and thirtie miles from it, Lixos made a Colonie by *Claudius Cæsar*, wherof in old time there went many fabulous and lowd lying tales. For, there stood (they say) the roiall pallace of *Antæus*: there was the combate betweene him and *Hercules*: there also were the gardens and hort-yards of the Hesperides. Now there floweth thereinto out of the sea a certain creeke or arme thereof, and that by a winding channell, wherin men now take it that there were Dragons serving in good steed to keepe and guard the same. It encloseth an Island within it selfe, which (notwithstanding the tract thereby be somewhat higher) is only not overflowed by the sea tides. In it there standeth erected an altar of *Hercules*: and setting aside certaine wild Olives, nothing els is to be seene of that goodly grove, reported to beare golden apples. And in good faith lesse may they make a wonder at the strange lies of Greece given out of these, and the river Lixus, who would but thinke how of late our countreymen have delivered some fables, as monstrous welneere of the same things: to wit, that this is a most strong and mightie cittie, and bigger than great Carthage: moreover, that it is situate overagainst it, and an infinite way well neere from Tingi: and other such like, which *Cornelius Nepos* hath beene most eager to beleeve. From Lixus fortie miles in the midland parts of the maine, standeth Babba, another Colonie of *Augustus*, called by him Iulia in the field or Champain: also a third 75 miles off, called Banasa, but now it hath the addittion of Valentia. 35 miles from it is the towne Volubile, just in the mid way betweene both seas. But in the coast and borders thereof, 50 miles from Lixus, there runneth Subur a goodly plenteous river, and navigable, neere to the Colonie Banasa. As many miles from it is the towne Sala, standing upon a river

A a river of the same name, neere now unto the wildernesse, much infested and annoied with whole heards of Elephants, but much more with the nation of the Autololes, through which lieth the way to Atlas the most fabulous mountaine of all Affricke. For writers have given out, that this hill arising out of the very middest of the sea sands, mounteth up to the skie, all rough, illfavoured, and overgrowne on that side that lieth to the shore of the Ocean, unto which it gave the name: and yet the same is shadowie, full of woods, and watered with veines of spouting Springs that way which looketh to Affricke, with fruitfull trees of all sorts, springing of the owne accord, and bearing one under another, in such sort, that at no time a man can want his pleasure and delight to his full contentment. Moreover, that none of the inhabitants there are seene all day long: all is still and silent, like the fearefull horror in desert wildernesse: and as men come neerer
B and neerer unto it, a secret devotion ariseth in their harts: and besides this feare and horror, they are lifted up above the clouds, and even close to the circle of the Moone. Over and besides, that the same hill shineth oftentimes with many flashes of fires, and is haunted with the wanton lascivious Ægipanes and Satyres, whereof it is full, that it resoundeth with noise of haut-boies, pipes, and fifes, and ringeth againe with the sound of tabers, timbrels, and cymbals. These bee the reports of great and famous writers, to say nothing of the labours and works both of *Hercules* and *Perses* there: and to conclude, that the way unto it is exceeding great, and not certainely knowne. Bookes there were besides of *Hanno*, a great captaine and commander among the Carthaginians, who in the time of the most flourishing state of Carthage, had a charge and commission to discover and survey the whole compasse of Affricke. Him, most of the Greekes as well as our
C countreymen following, among some other fabulous stories, have written that he also built many citties there: but neither memoriall upon record, nor any token of them at all is left extant. Whiles *Scipio Æmylianus* warred in Affrick, *Polybius* the writer of the Annales, received of him a fleet: who having sailed about of purpose to search into that part of the world, hath put thus much downe in writing, That from the said mountaine West, toward the forrests full of wild beasts, which Affricke breedeth, unto the river Anatis, are 485 miles. And from thence to Lixus 205. *Agrippa* saith, That Lixus is distant from the streights of Gades 112 miles. Then, that there is an arme of the sea called Saguti. Also a towne upon the Promontorie, Mutelacha. Rivers, Subur and Sala. Moreover, that the haven Rutubis is from Lixus 313 miles. And so forward to the Promontorie of the Sunne. The port or haven Risardir: the Gætulians, Autololes, the river Co-
D senus, the nation of the Scelatites and Massalians. The rivers Masatal and Darat, wherin Crocodiles are engendred. Then forward, that there is a gulfe of 516 miles, enclosed within the promontorie or cape of the mountaine Barce, running along into the West, which is called Surrentium. After it, the river Palsus, beyond which are the Æthyopians Perorsi, and at their backe are the Pharusi. Vpon whom joine the midlanders, to wit, the Gætuliandars. But upon the coast are the Æthyopian Daratites, the river Bambotus, full of Crocodiles & Hippopotames, [*i.* Waterhorses.] From which, he saith, That there is nothing but mountains all the way as farre as to that, which we call Theon Ochema [The gods chariot.] Then, in sailing nine daies and nights to the promontorie Hesperium, he hath placed the mountaine Atlas in the midway thereof, which by all other writers is set downe to bee in the utmost marches of Mauritania. The first time that the
E Romanes warred in Mauritania, was in the time of prince *Claudius* Emperour: at what time as *Ædemon* the freed servant of king *Ptolomæus*, by *C. Cæsar* slain, went about to revenge his death. For as the barbarous people retired and fled backe, certaine it is that the Romanes came as far as to the hill Atlas. And not onely such Generals as had beene Consuls, and were of Senatours degree and calling, who at that time managed and conducted the warres, but knights also and gentlemen of Rome, who from that time had government and commaund there, tooke it for an honour and glorie, that they had pierced and entred into Atlas. [*Five Romane Colonies, as wee have said, be in that province] and by that common fame and report, there may seeme to lie a thorow-fare thither. But that is found for the most part by daily experience, most deceiveable
F of all things else: because persons of high place and great worth, when they are loth to search out narrowly into the truth of matters, sticke not for shame of ignorance, to give out untruths: and never are men more credulous and apter to beleeve and be deceived, than when some grave personage fathereth a lie. And verily I lesse marvell, that they of gentlemens degree, yea, and those now of Senatours calling, have not come to the certaine knowledge of some things there: seeing they set their whole affection and mind upon nothing but excesse and riot: which how

[*It seemeth that this clause is to be set in the beginning of the next chapter.]

powerfull

powerfull it is and forcible, is ſeene by this moſt of all, when forreſts are ſought out far and neere for Ivorie and Citron trees: when all the rockes in Getulia are ſearched for Murices and Purpuræ, [ſhell-fiſhes that yeeld the purple crimſen colour.] Howbeit the naturall inhabitants of that countrey doe write, That in the ſea-coaſt 150 miles from Sala, there is the river Aſana, that receiveth ſalt water into it, but hath in it a goodly faire haven: and not farre from it another freſh river, which they call Fut: from which to Dyris (for that is the name in their language of Atlas, by a generall conſent) are 200 miles, with a river comming betweene, named Vior. And there, the ſpeech ſo goeth, are to be ſeene the certaine tokens of a ground ſometimes inhabited, to wit, the reliques of vineyards and date tree groves. *Suetonius Paulinus* (a Conſull in our time) who was the firſt Romane leader, that for certaine miles ſpace went over Atlas, alſo hath reported verily as touching the heigth thereof, that with the reſt: and moreover, that the foot thereof toward the botome, ſtand thicke and full of tall woods, with trees therein of an unknowne kind, but the heigth of them is delectable to ſee to, ſmooth and even without knots, the leaves and braunches like Cypreſſe; and beſides the ſtrong ſmell they yeeld, are covered all over with a thin downe, of which (with ſome helpe of Art) fine cloth may be made, ſuch as the ſilk-worme doth yeeld. That the top and creſt thereof is covered over with deep ſnow even in ſummer time. Moreover, that he reached up to the pitch of it at the tenth daies end, and went beyond it as farre as a river called Niger, through wilderneſſes full of blacke duſt; where other-whiles there ſtood out certaine cliffes, and craggie rockes, as they were ſcortched and burnt: and that thoſe places by reaſon of parching heat were not habitable, albeit a man made triall thereof in the winter ſeaſon. Furthermore, that the paiſants who dwelt in the next forreſts, were peſtred with Elephants, wild beaſts, and ſerpents of all ſorts; and thoſe people were called Canarij: for that they and dogges feed togither one with another, and part among them the bowels of wild beaſts. For certaine it is knowne, that a nation of the Æthiopians whom they call Peroeſi, joyneth upon them. *Iuba*, the father of *Ptolomæus*, who before-time ruled over both Mauritanes, a man more memorable and renowmed for his ſtudie and love of good letters, than for his kingdom and royall port, hath written the like concerning Atlas: and he ſaith moreover, that there is an herb growing there called Euphorbia, of his Phiſitions name that firſt found it: the milkie juyce whereof he praiſeth wondrous much, for to cleare the eyes, and to be a preſervative againſt all ſerpents and poiſons whatſoever: and thereof hath he written a treatiſe and made a book by it ſelfe. Thus much may ſuffice, if it be not too much, as touching Atlas.

Chap. II.

The province Tingitania.

THe length of the province Tingitania, taketh 170 miles. The nations therein be theſe: The Mauri, which in times paſt was the principall, and of whome the province tooke name: and thoſe moſt writers have called Maruſij. Being by warre weakned and diminiſhed, they came in the end to a few families only. Next to them were the Maſſæſuli, but in like manner were they conſumed. Now is the province inhabited by the Getulians, Bannurri, and the Autololes, the moſt valiant and puiſſant of all the reſt. A member of theſe were ſometime the Veſuni: but being divided from them, they became a nation by themſelves, and bounded upon the Æthiopians. The province naturally full of mountaines Eaſtward, breedeth Elephants. In the hill alſo Abila, and in thoſe which for their even and equall heigth they call, The ſeven brethren: and theſe butt upon Abila, which looketh over into the ſea. From theſe beginneth the coaſt of the Inward ſea. The river Tamuda navigable, and a towne ſometime [of that name.] The river Laud, which alſo receiveth veſſels. The towne Ruſardie, and the haven. The river Malvana navigable. The towne Siga juſt againſt Malacha ſituate in Spaine: the royall ſeat of *Syphax*, and now the other Mauritania. For a long time they kept the names of KK. ſo as the utmoſt was called Bogadiana: and likewiſe Bocchi, which now is Cæſarienſis. Next to it is the haven for the largeneſſe thereof called Magnus, with a towne of Romane citizens. The river Muluca, which is the limit of Bocchi and the Maſſæſuli. Quiza Xenitana, a towne of Straungers: Arſennaria, a towne of Latines three miles from the ſea: Carcenna, a Colonie of *Auguſtus*, erected for the ſecond legion: Likewiſe another Colonie of his planted with the Pretorian band, Gunugi: and the promontorie of *Apollo*. And a moſt famous towne there Cæſarea, uſually before-time called Iol, the royall ſeat of king *Iuba*: endowed by *Claudius* the Emperour

A rour of happie memorie, with the franchiſes and right of a Colonie, at whoſe appointment the old ſouldiers were there beſtowed. A new towne, Tipaſa, with the graunt of the liberties of Latium. Likewiſe Icoſium, endowed by *Veſpaſian* the Emperour, with the ſame donations. The colonie of *Auguſtus* Ruſconiæ: and Ruſcurum, by *Claudius* honoured with the free burgeoiſie of the citie. Ruſoezus, a colonie of *Auguſtus*. Salde, a Colonie of the ſame man. Igelgili alſo, and Turca, a towne ſeated upon the ſea and the river Ampſaga. Within the land, the Colonie Auguſta, the ſame that Succubar; and likewiſe Tubriſuptus. Cities, Timici, Tigavæ. Rivers, Sardabala and Nabar. The people Macurębi: the river Vſar, and the nation of the Nabades. The river Ampſaga is from Cæſarea 233 miles. The length of Mauritania both the one and the other together, is 839 miles, the breadth 467.

B

Chap. iii.

Numidia.

NExt to Ampſaga is Numidia, renowmed for the name of *Maſaniſſa*: called of the Greeks, the land Metagonitis. The Numidian Nomades, ſo named of chaunging their paſture, who carrie their cottages or ſheddes (and thoſe are all their dwelling houſes) about with them upon waines. Their townes be Cullu and Ruſicade, from which 48 miles off within the midland parts, is the colonie Cirta, ſurnamed of the Cirtanes: another alſo within and a free borough towne, named Bulla Regia. But in the utmoſt coaſt, Tacatua, Hippo Regius, and the
C river Armua. The towne Trabacha, of Romane Cittizens: the river Tuſca, which boundeth Numidia: and beſides the Numidian marble, and great breed of wild beaſts, nothing is there els worth the noting.

Chap. iiii.

Africa.

FRom Tuſca forward, you have the region Zeugitana, and the countrey properly called Africa. Three promontories: firſt, the White; then anon that of *Apollo* over-againſt Sardinia: and a third of *Mercurie* oppoſite to Sicilie; which running into the ſea, make two
D creekes: the one Hipponenſis, next to the towne which they call Hippo raſed; the Greeks name it Diarrhyton, for the little brookes and rilles that water the grounds: upon this, there bordereth Theudalis, an exempt towne from tribute, but ſomewhat farther from the ſea ſide; then the promontorie of *Apollo*. And in the other creeke, Vtica, a towne of Romane citizens, ennobled for the death of *Cato*: and the river Bagrada. A place called Caſtra Cornelia: and the colonie Carthago, among the reliques and ruines of great Carthage: and the colonie Maxulla. Townes, Carpi, Miſna, and the free borough Clupea upon the promontorie of *Mercurie*. *Item*, free townes, Curubis and Neapolis. Soone after yee ſhall meet with another diſtinction of Affricke indeed. Libyphœnices are they called, who inhabite Byzacium; for ſo is that region named: containing in circuit 250 myles, exceeding fertile and plenteous, where the ground ſowne
E yeeldeth againe to the husband-man 100 fold encreaſe. In it are free townes, Leptis, Adrumetum, Ruſpina, and Thapſus: then, Thenæ, Macomades, Tacape, Sabrata, reaching to the leſſe Syrtis: unto which, the length of Numidia and Africa from Amphaga, is 580 miles: the bredth, of ſo much thereof as is knowne, 200. Now this part which wee have called Affricke, is divided into provinces twaine, the old and the new; ſeparated one from the other by a foſſe or ditch brought as farre as to Thenæ, within the Africane gulfe, which towne is 217 myles from Carthage: and that trench *Scipio Africanus* the ſecond, cauſed to be made, and bare halfe the charges together with the KK. The third gulfe is parted into twaine, curſed and horrible places both, for the ebbing and flowing of the ſea, and the ſhelves betweene the two Syrtes. From Carthage to the nearer of them, which is the leſſe, is 300 miles by the account of *Polybius*: who ſaith alſo,
F that the ſaid Syrte is for 100 miles forward daungerous, and 300 about. By land alſo thither, the way is paſſeable by obſervation of the Starres, at one time of the yeere onely, and that lyeth through deſert ſands and places full of ſerpents. And then you meet with forreſts repleniſhed with numbers of wild beaſts: and within-forth, wilderneſſes of Elephants: and ſoon after, waſte deſerts even beyond the Garamantes, who from the Augilæ are diſtant twelve daies journey.

Above

Above them was the nation of the Pſylli: and above them the Lake of *Diomedes* environned G
with deſarts. Thoſe Augylæ themſelves are ſeated well neere in the middle way from Æthyopia,
which bendeth Weſtward, and the countrey lying betweene the two Syrtes, with equall diſtance
betweene of both ſides: but the ſhore betweene the two Syrtes of 250 miles. There ſtandeth the
citie Ocenſus, the river Cinyps and the countrey. Townes, Neapolis, Taphra, Abrotonum, the
other Leptis, called alſo the great. Then the greater Syrtis, in compaſſe 625 miles, and in di-
rect paſſage 313. Next to it, there inhabite the people Ciſipades. In the inmoſt gulfe was the
coaſt of the Lotophagi, whom ſome have called Alachroas, as farre as to the altars of Philæna,
and of ſand are they. Next to them, not farre from the Continent, the vaſt and wide Meere ad-
mitteth into it the river Triton, and taketh the name of him: but *Callimachus* calleth it Pallan-
tias, and ſaith it is on this ſide the leſſer Syrtes, but many place it betweene both Syrtes. The pro- H
montorie that encloſeth the bigger, is named Borion. Beyond it is the province Cyrenaica.
From the river Ampſaga to this bound, Affricke containeth 26 States, who are ſubject to the Ro-
mane Empire: among which are ſixe Colonies beſides the abovenamed, Vthina and Tuburbis.
Townes endowed with franchiſes of Romane cittizens 15. Of which thoſe in the midland parts,
worthie to bee named, are Azuritanum, Abutucenſe, Aborienſe, Canopicum, Chilmanenſe, Si-
mittuenſe, Thunuſidenſe, Tuburnicenſe, Tynidrumenſe, Tribigenſe, Vcitana twaine, the greater
and the leſſe, and Vagienſe. One towne enjoying the liberties of Latium, Vſalitanum. One tri-
butarie or penſionarie towne neere Caſtra Cornelia, paieth cuſtome and duties to Rome. Free
townes 30, of which there are to bee named within-forth, Arolitanum, Acharitanum, Avinenſe,
Abziritanum, Canopitanum, Melzitanum, Madaurenſe, Salaphitanum, Tuſdritanum, Tiricenſe I
Tiphicenſe, Tunicenſe, Theudenſe, Tageſtenſe, Tigenſe, Vluſibritanum, another Vagenſe, Vi-
genſe and Zamenſe. The reſt may well be called not onely citties, but alſo for the moſt part, nati-
ons, namely, the Natatondes, Capſitani, Miſulani, Sabarbares, Maſſili, Miſives, Vamacures, E-
thini, Maſſini, Marchubij: and Gætulia all and whole, even to the river Nigris, which parteth Af-
frike and Æthyopia.

Chap. V.

☞ *Cyrene.*

THe region Cyrenaica, called alſo Pentapolitana, is famous and renowned for the Oracle
of *Hammon*, which is from Cyrenæ 400 miles, for the fountaine of the Sunne, and princi- K
pally for five citties, Berenice, Arſinoe, Ptolemais, Apollonia, and Cyrene it ſelfe. Berenice
ſtandeth upon the utmoſt winding and nouke of Syrtis, called ſometime the citie of the above-
named Heſperides, according to the wandering tales of Greece. And before the towne, not far
off, is the river Lethon, the ſacred grove where the hort-yards of theſe Heſperides are reported
to be. From Leptis it is 385 miles. From it ſtandeth Arſinoe, uſually named Teuchira 43 miles:
and from thence 22 miles, Ptolemais, called in old time Barce. And then 250 miles off the Pro-
montorie Phycus runneth out along the Creticke ſea, diſtant from Tænarus a cape of Laconia,
350 miles: but from Creet it ſelfe 125 miles. And after it Cyrene, 11 miles from the ſea. From
Phycus to Apollonia is 24 miles: to Cherrhoneſus 88: and ſo forth to Catabathnus 216 miles.
The inhabitants there bordering, bee the Marmaridæ, ſtretching out in length almoſt from Pa- L
rætonium to the greater Syrtis. After them the Araraueeles: and ſo in the very coaſt and ſide of
Syrtis, the Naſamones, whome beforetime the Greekes called Meſammones by reaſon of the
place, for that they were ſeated in the middeſt betweene the two quicke ſands. The Cyrenaicke
countrey, for the ſpace of 15 miles from the ſea ſide, is fruitfull for trees: and for the ſame com-
paſſe within the land, but for corne onely: but then for 30 miles in breadth, and 250 in length,
for the gum Laſer and nothing elſe. After the Maſamones, the Hasbitæ and Maſæ doe live. Be-
yond them the Hammanientes, eleven daies journey from the greater Syrtes to the Weſt, and
even they alſo every way are compaſſed about with ſands: howbeit they find without much ado
pits almoſt in cubites deepe, for that the waters there of Mauritania doe overflow. Houſes they
make themſelves of ſalt, hewed out of their owne hils in manner of ſtone. From theſe to the Tro- M
glodites, in the Southweſt coaſt is foure daies journey, with whom they chaffer and trafficke one-
ly for a certaine precious ſtone or gem, which wee call a Carbuncle, brought out of Æthyopia.
There commeth betweene, the countrey Phazania, lying toward the wilderneſſe aboveſaid of Af-
fricke, above the leſſe Syrtis: where we ſubdued the nation of the Phazanij, together with the cit-
ties

A ties Alele and Cillaba. In like manner Dydamum overagainſt Sabrata. Next to whom there is a mountaine, reaching a great way from the Eaſt into the Weſt, called by our men Ater, naturally as it were burnt, and like as if it were ſcorched and ſet on fire with the reflection of the Sunne. Beyond that mountaine are the deſerts: alſo Matelgæ a towne of the Garamants, and likewiſe Debris, which caſteth forth a ſpring of waters ſeething up from noone to midnight exceeding hot: and for as many houres againe into midday moſt chilling cold: alſo the moſt goodly towne Garama, the cheefe head of the Garamantes. All which places the Romanes have conquered by force of armes, and over them *Cornelius Balbus* triumphed, the onely man of forrainers that was honoured with the triumphant chariot, and endowed beſides with the freedome of Romane citizens. For why, being borne at Gades, he and his uncle both, *Balbus* the elder, were made free
B denizens of Rome. And this is marvell that our writers have recorded, that beſides the townes abovenamed by him conquered, himſelfe in his triumph carried the titles and pourtraicts, not of Cydamus and Garama onely, but alſo of all other nations and citties, which were raunged in a Roll, and went in this order. The towne Tabidium, the nation Niteris, the towne Negligemela, the nation Bubeium, the towne Vel, the nation Enipi, the towne Thuben, the hill named Niger. The townes Nitibrum and Rapſa, the nation Diſcera, the towne Debris, the river Nathabur, the towne Tapſagum, the nation Nannagi, the towne Boin, the towne Pege, the river Daſibari. And againe forward, theſe towns lying one to another together, Baracum, Buluba, Alaſi, Balſa, Galla, Maxala, and Zizama. The hill Gyri, wherein *Titus* hath reported that precious ſtones were engendred. Hitherto the way to the Garamants, was intricate and unpaſſable, by reaſon of the rob-
C bers and theeves of that countrey, who uſed to dig certaine pits in the way (which to them that know the quarters of the countrey is no hard matter to doe) and then cover them lightly over with ſand. But in the laſt war which the Romanes maintained againſt the Oenſes, under the conduct and fortunate auſpices of *Veſpaſian* the Emperour, there was found a ſhort and neere way of foure daies journey: and this way is called *Præter caput Saxi* [beſides the rockes head.] The frontier towne of Cyrenaica is called Catabathmos, which is a towne and a vale all on a ſuddain falling with a ſteepe deſcent. To this bound, from the leſſe Syrtis, Cyrenaica Affrica lieth in length 1060 miles, and in breadth, for ſo much as is knowne, 800.

Chap. VI.

D

Libya Maræotis.

THe countrey following is named Mareotis Libya, and boundeth upon Ægypt, inhabited by the Marmaridæ, Adyrmachidæ, and ſo forward with the Mareotæ. The meaſure of it from Catabathmos to Paretonium, is 86 miles. In that tract there lieth in the way between the village Apis, a place renowned for the religious rites of Ægypt. From it to Parætonium are 12 miles. From thence to Alexandria 200 miles: the breadth thereof is 169 miles. *Eratoſthenes* hath delivered in writing, That from Cyrenæ to Alexandria by land is 525 miles. *Agrippa* ſaith, that the length of all Affricke from the Atlanticke ſea, together with the inferiour part of Ægypt containeth 3040 miles. *Polybius* and *Eratoſthenes* reputed to have been moſt exact and cu-
E rious in this kind, ſet downe, from the Ocean to great Carthage 600 miles. From thence to Canopicum the neereſt mouth of Nilus, they make 1630 miles. *Iſidorus* reckoneth from Tingi to Canopus 3599 miles. And *Artemidorus* fortie leſſe than *Iſiodorus*.

Chap. VII.

Iſlands about Affricke, and overagainſt Affricke.

THeſe ſeas have not very many Iſlands within them. The faireſt of them all is Meninx, 35 miles long, and 25 broad, called by *Eratoſthenes* Lotophagitis. Two townes it hath, Meninx
F on Affricke ſide, and Thoar on the other: it ſelfe is ſituate from the right hand promontorie of the leſſe Syrtis *200 paces. A hundred miles from it againſt the left hand is Cercina, with a free towne of the ſame name, in length it is 25 miles, and halfe as much in breadth where it is moſt: but toward the end not above five miles over. To it there lieth a prettie little one toward Carthage, called Cercinitis, & joineth by a bridge unto it. From theſe almoſt 50 miles, lieth Lopaduſa ſixe miles long. Then, Gaulos and Galata: the earth whereof killeth the Scorpion, a ſell crea-

*Or 1500 paces, *i.* a mile and a halfe.

creature, and noisome to Affricke. Men say also that they will die in Clupea, over against which lieth Corsyra, with a towne. But against the gulfe of Carthage be the two *Æginori, rockes more like than Islands, lying most betweene Sicilie and Sardinia. There bee that write how these sometime were inhabited, but afterwards sunke downe and were covered. G

Chap. VIII.

❧ *The Æthyopians.*

BVt within the inner compasse and hollow of Affricke toward the South, and above the Gætulians, where the desarts come betweene, the first people that inhabite those parts, bee the Libij Ægyptij, and then the Leucæthiopes. Above them are the Æthyopian nations, to wit the Nigritæ, of whom the river tooke name: the Gymetes, Pharusi, and those which now reach to the Ocean, whome wee spake of in the marches of Mauritania, namely, the Perorsi. From all these, it is nothing but a wilderneſſe Eastward, till you come to the Garamantes, Augylæ, and Troglodites, according to the most true opinion of them, who place two Æthyopiaes above the deserts of Affricke: and especially of *Homer*, who saith, that the Æthyopians are devided two waies, namely, East and West. The river Nyger is of the same nature that Nilus. It bringeth forth Reed and Papyr, breedeth the same living creatures, and riseth or swelleth at the same seasons. It springeth betweene the Tarelcia Æthyopians, and the Oecalicæ. The towne Mavin belonging to this people, some have set upon the wilderneſſe: as also, neere unto them, the Atlantes, the Ægipanes, halfe wild beasts, the Blemmyi, the Gamphasants, Satyres, & Himantopodes. Those Atlantes, if we will beleeve it, degenerate from the rites and manners of all other men: for neither call they one another by any name: and they looke wistly upon the sunne, rising and setting, with most dreadfull curses, as being pernicious to them and their fields: neither dreame they in their sleepe, as other men. The Troglodites dig hollow caves, and these serve them for dwelling houses: they feed upon the flesh of serpents. They make a gnashing noise, rather than utter any voice, so little use have they of speech one to another. The Garamants live out of wedlocke, and converse with their women in common. The Augylæ do no worship to any but to the devils beneath. The Gamphasantes be all naked, and know no warres, and sort themselves with no forrainer. The Blemmyi, by report, have no heads, but mouth and eies both in their breast. The Satyres besides their shape onely, have no properties nor fashions of men. The Ægipanes are shaped, as you see them commonly painted. The Himantopodes bee some of them limberlegged and tender, who naturally goe creeping by the ground. The Pharusi, sometime Persæ, are said to have been the companions of *Hercules*, as he went to the Hesperides. More of Affrike worth the noting, I have not to say. H I K

Chap. IX.

❧ *Of Asia.*

VNto it joineth Asia, which from the mouth of Canopus unto the mouth of Pontus, after *Timosthenes* 2639 miles. From the coast of Pontus to that of Mæotis, *Eratosthenes* saith, is 1545 miles. The whole, together with Ægypt unto Tanais, by *Artemidorus* and *Isidorus*, taketh 8800 miles. Many seas there bee in it, taking their names of the borderers: and therefore they shall be declared together with them. The next countrey to Affrike inhabited, is Ægypt, lying farre within-forth to the South, so farre as the Æthyopians, who border upon their backes. The nether part thereof the river Nilus, divided on the right hand and the left, by his clasping doth bound and limit, with the mouth of Canopus from Affricke, with the Pelusiake from Asia, and carrieth a space betweene of 170 miles. Whereupon, considering that Nilus doth so part it selfe, some have reckoned Ægypt among the Islands, so as it maketh a triangle figure of the land. And here it is that many have called Ægypt by the name of the Greek letter Delta, Δ. The measure of it from the channell where it is but one, and from whence it beginneth first to part into skirts and sides, unto the mouth of Canopus, is 146 miles: and to the Pelusiake 256. The upmost part thereof bounding upon Æthyopia, is called Thebais. Divided it is into townesships with severall jurisdictions, which they cal Nomos, to wit, Ombites, Phatuites, Apollopolites, Hermonhites, Thinites, Phanturites, Captites, Tentyrites, Diospalites, Antæopolites, Aphroditopolites, L M

A lites, and Lycopolites. The countrey about Pelusium, these townes hips with their severall jurisdictions, Pharbœtites, Bubastites, Sethroites, and Tanites. The rest have these following, the Arabicke, the Hammoniacke which extendeth to the Oracle of *Iupiter Hammon*, Oxyrinchites, Leontopolites, Atarrhabites, Cynopolites, Hermopolites, Xoites, Mendesins, Sebennites, Capastites, Latopolites, Heliopolites, Prosopites, Panopolites, Busirites, Onuphites, Sonites, Ptenethu, Pthemphu, Naucratites, Nitrites, Gynæcopolites, Menelaites, in the country of Alexandria. In like manner of Libya Mareotis. Heracleopolites is in the Iland of Nilus, fiftie miles long, wherein also is that which they call *Hercules* his towne. Two Arsinoites there bee, they and Memphites reach as farre as to the head of Delta. Vpon it there doe bound out of Affrica the two Quasitæ. There be that change some names of these, and set downe for them other juris-

B dictions, to wit, Heroopolites, and Crocodilopolites. Betweene Arsinoites and Memphites there was a lake 250 miles about, or as *Mutianus* saith, 450, fiftie paces deepe, [*i.* 450 foot,] & the same made by mans hand, called the Lake Mæridis, of a king who made it. 72 miles from thence is Memphis, the castle in old time of the Ægyptian kings. From which to the Oracle of *Hammon* is twelve daies journey, and so to the devision of Nilus, which is called Delta, fifteene miles. The river Nilus arising from unknowne springs, passeth through desarts and hote burning countries: and going thus a mightie way in length, is knowne by fame onely, without armes, without warres which have discovered and found out all other lands. It hath his beginning, so farre forth as *Iuba* was able to search and find out, in a hill of the lower Mauritania, not far from the Ocean, where a lake presently is seene to stand with water, which they call Nilides. In it are found these fishes,

C called Alabetæ, Coracini, Siluri, and the Crocodile. Vpon this argument and presumption Nilus is thought to spring from hence, for that the pourtraict of this source is consecrated by the said prince at Cæsarea, in Iseum, and is there at this day seene. Moreover, observed it is, that as the Snow or raine doe satisfie the countrey in Mauritania, so Nilus doth encrease. When it is run out of this lake, it scorneth to run through the sandie and overgrown places, and hideth himselfe for certaine daies journey. And then soone after out of a greater lake, it breaketh forth in the countrey of the Massæsyli, with Mauritania Cæsariensis, and looketh about viewing mens companie, carrying the same arguments still of living creatures bred within it. Then, once againe being received within the sands, it is hidden a second time for twentie daies journey, in the desarts as farre as to the next Æthyopes: and so soone as hee hath once againe espied a man, forth hee

D starteth (as it should seeme) out of that Spring, which they called Nigris. And then deviding Affrick from Æthyopia, being acquainted, if not presently with people, yet with the frequent companie of wild and savage beasts, and making shade of woods as he goeth, he cutteth through the middest of the Æthyopians: there surnamed Astapus, which in the language of those nations signifieth a water flowing out of darkenesse. Thus dasheth hee upon such an infinite number of Ilands, and some of them so mightie great, that albeit he beare a swift streame, yet is he not able to passe beyond them in lesse space than five daies. About the goodliest and fairest of them Meroe, the chanell going on the left hand is call Astabores, that is to say, the branch of a water comming forth of darkenesse: but that on the right hand Astusapes, which is as much as, Lying hid, to the former signification. And never taketh the name of Nilus, before his waters meet againe

E and accord all whole together. And even so was he aforetime named Siris, for many miles space; and of *Homer* altogether Ægyptus: and of others, Triton: here and there, and ever and anon hitting upon Ilands, and stirred as it were with so many provocations: and at the last enclosed and shut within mountaines, and in no place carrieth he a rougher and swifter streame, whiles the water that he beareth, hasteneth to a place of the Æthyopians called Catadupi, where in the last fall amongst the rockes that stand in his way, hee is supposed not to runne, but to rush downe with a mightie noise. But afterwards he becommeth more mild and gentle, as the course of his streame is broken, and his violence tamed and abated, yea, and partly wearied with his long way: and so though with many mouths of his, he dischargeth himselfe into the Ægyptian sea. Howbeit, at certaine set daies he swelleth to a great heigth: and when he hath travailed all over Ægypt, hee

F overfloweth the land, to the great fertilitie and plentie thereof. Many and divers causes of this rising and increase of his, men have given: but those which carrie the most probabilitie, are either the rebounding of the water, driven backe by the winds Etesiæ, at that time blowing against it, and driving the sea withall upon the mouths of Nilus: or else the Summer raine in Æthyopia, by reason that the same Etesiæ bring clouds thither from other parts of the world. *Timæus* the

Mathematician, alledged an hidden reaſon thereof, to wit, that the head and ſource of Nilus is named Phiala, and the river it ſelfe is hidden, as it were drowned within certaine ſecret trenches within the ground, breathing forth vapours out of reeking rockes, where it thus lieth in ſecret. But ſo ſoone as the Sunne during thoſe daies, commeth neere, drawne up it is by force of heat, and ſo all the while he hangeth aloft, overfloweth: and then againe for feare he ſhould bee wholly devoured and conſumed, putteth in his head againe, and lieth hid. And this happeneth from the riſing of the Dog ſtarre Sicinus, in the Sunnes entrance into Leo, while the Planet ſtandeth plumbe over the fountaine aforeſaid: for as much as in that climate there are no ſhadowes to be ſeene. Many againe were of a different opinion, that a river floweth more abundantly, when the Sunne is departed toward the North pole, which happeneth in Cancer and Leo: and therefore at that time is not ſo eaſily dried: but when he is returned once againe backe toward Capricorn and the South pole, it is drunke up, and therefore floweth more ſparily. But if according to *Timæus* a man would thinke it poſſible that the water ſhould be drawne up, the want of ſhaddowes during thoſe daies, and in thoſe quarters, continueth ſtill without end. For the river beginneth to riſe and ſwell at the next change of the Moone after the Sunne ſteed, by little and little gently, ſo long as he paſſeth through the ſigne Cancer, but moſt abundantly when he is in Leo. And when he is entred Virgo, he falleth and ſettleth low againe, in the ſame meaſure as he roſe before. And is cleane brought within his bankes in Libia, which is, as *Herodotus* thinketh, by the hundreth day. All the whiles it riſeth, it hath beene thought unlawfull for kings or governours to ſaile or paſſe in any veſſell upon it, and they make conſcience ſo to doe. How high it riſeth, is knowne by markes and meaſures taken of certaine pits. The ordinarie heigth of it is ſixteene cubites. Vnder that gage the waters overflow not all. Above that ſtint, there are a let and hinderance, by reaſon that the later it is ere they bee fallen, and downe againe. By theſe, the ſeed time is much of it ſpent, for that the earth is too wet. By the other there is none at all, by reaſon that the ground is drie and thirſtie. The province taketh good keepe and reckoning of both, the one as well as the other. For when it is no higher than 12 cubites, it findeth extreame famine: yea, and at 13 it feeleth hunger ſtill, 14 cubites comforts their hearts, 15 bids them take no care, but 16 affoordeth them plentie and delicious dainties. The greateſt floud that ever was knowne untill theſe daies, was 18 cubites, in the time of prince *Claudius* Emperor: and the leaſt, in the Pharſalian warre, againſt the death of *Pompey:* as if the very river by that prodigious token abhorred to ſee the ſame. When at any time the waters ſeeme to ſtand and cover the ground ſtill, they are let out at certaine ſluces or floud-gates drawne up and ſet open. And ſo ſoone as any part of the land is freed from the water, ſtreight waies it is ſowed. This is the onely river of all others that breatheth out no wind from it. The Seignorie and dominion of Ægypt beginneth at Syene, the frontier town of Æthyopia. For that is the name of a demie Iſland a hundred miles in compaſſe, wherin are the Ceraſtæ upon the ſide of Arabia: and overagainſt it the foure Iſlands Philæ, 600 miles from the partition of Nilus, where it began to be called Delta, as we have ſaid. This ſpace of ground hath *Artemidorus* delivered, and withall, that within it were 250 townes. *Iuba* ſetteth down 400 miles. *Ariſtocreon* ſaith, That from Elephantis to the ſea is 750 miles. This Elephantis being an Iſland, is inhabited beneath the loweſt cataract or fall of water three miles, and above Syene 16: and it is the utmoſt point that the Ægyptians ſaile unto: and is from Alexandria 586 miles. See how farre the authors above written, have erred and gone out of the way: there meet the Æthyopian ſhips, for they are made to fold up together, and carrie them upon their ſhoulders, ſo often as they come to thoſe cataracts or downefals aforeſaid. Ægypt, over and above all other their boaſt and glorie of antiquitie, brags that in the reigne of king *Amaſis*, there were inhabited in it and peopled twentie thouſand citties. And even at this day full it is of them, ſuch as they be, and of baſe account. Howbeit, that of *Apollo* is much renowned, as alſo neere unto it another of Leucathea, and *Dioſpolis the great, the very ſame that Thebes, famous for the hundred gates in it. Alſo, Captos, a great mart towne next to Nilus, much frequented for merchandiſe & commodities out of India & Arabia. Moreover, the town of *Venus*, and another of *Iupiter*, and Tentyris, beneath which ſtandeth Abydus, the roiall ſeat of *Memnon*, and Oſiris renowmed for the temple there, ſeven miles and an halfe diſtant from the river, toward Lybia. Then Ptolemais, Panopolis, and another yet of *Venus*. Alſo in the Lybian coaſt, Lycon, where the hill doe bound Thebais. Soone after, theſe townes of *Mercurie*, Alabaſtron, Canum, and that of *Hercules* ſpoken of before. After theſe, Arſinoe, and the aboveſaid Memphis, betweene which

*i. The cittie of *Iupiter*.

A and the diocese Arsinoetis, in the Lybian coast, the towres called Pyramides, the Labyrinth built up in the lake of Mœris without any iote of timber to it, and the towne Crialon. One more besides, standing within-forth and bounding upon Arabia, called The towne of the Sunne, of great account and importance.

Chap. X.

Alexandria.

BVt right worthy of praise is Alexandria, standing upon the coast of the Ægyptian sea, built by *Alexander* the Great on Africke side, 12 myles from the mouth of Canopus, neare to
B the lake Mareotis: which was before-time called * Arapotes. *Dinochares* the Architect, (a man renowmed for his singular wit many waies) laid the modell and platforme thereof by a subtill and wittie devise: for having taken up a circuit of 15 miles for the cittie, hee made it round like to a Macedonian cloke, full in the skirts, bearing out into angles and corners, as well on the left hand as the right, so as it seemed to lye in folds and plaits; and yet even then he set out one fift part of all this plot for the kings pallace. The lake Mareotis from the South side, meeteth with an arme of the river Nilus, brought from out of the mouth of the said river called Canopicus: for the more commodious trafficke and commerce out of the firme ground and inland Continent. This lake containeth within it sundry Ilands, and (according to *Claudius Cæsar*) it is thirtie miles over. Others say, that it lyeth in length fortie Schœni, and so, whereas every Schœne
C is 30 stadia, it commeth by that account to be 150 myles long, and as many broad. Over and besides, there be many goodly faire townes of great importance, standing upon the river Nilus where he runneth, and those especially which have given name to the mouthes of the river, and yet not to all those neither (for there be 11 of them in all, over and besides foure more, which they themselves call bastard mouthes) but to 7 of the principall: to wit, upon that of Canopus, next to Alexandria; then Bolbitinum, and so forth to Sebenniticum, Phatuiticum, Mendesicum, Taniticum, and last of all Pelusiacum. Other cities there be besides, to wit, Buros, Pharbœtos, Leontopolis, Achribis, Isis towne, Busiris, Cynophis, Aphrodites, Saïs, Naucratis, of which some thinke the mouth Naucraticum tooke the name, which they be that call Heracleoticum, preferring it before Canopicum, next unto which it standeth.

* or Rachobea.

D

Chap. XI.

Arabia [the Desert or Petræa.]

BEing once past that arme of the river Nilus, which entreth into the sea at Pelusium, you come into Arabia, confining upon the red Sea: and that other Arabia, so rich and odoriferous, and therefore renowmed with the surname of Happie. As for this Desert Arabia, possessed it is by the Catabanes, Esbonites, and Screnite Arabians: all barren and fruitlesse, save whereas it meeteth with the confines of Syria, and setting aside the mountaine Casius, nothing memorable. This region confronteth the Arabians Canchlei on the East side, and the
E Cedræi Southward, and they both confine together afterwards upon the Nabathæes. Moreover, two Baies there be, the one called, The gulfe of Heroopolis, and the other of Elani: both in the red sea on the coast of Ægypt, 150 miles distant, betweene two townes, Elana and Gaza, which is in our [Mediteranean] sea. *Agrippa* counteth from Pelusium to Arsinoe, a towne situate upon the red sea, an hundred and five and twentie miles. See how small a way lyeth between two Climates so different in nature.

Chap. XII.

Syria, Palestine, Phœnice.

F VPon the coast of the said Arabia, confineth Syria; a Region in times past, the chiefe and most renowmed upon earth: and the same distinguished by sundrie names. For where it confineth upon the Arabians, called it was Palæstina, Iurie, Cœle-Syria, and afterward, Phœnice: But goe farther within the firme land, Damascene. Turne more still Southwards, it is named Babylonia. And the same, betweene the rivers Euphrates and Tygris, carrieth the name

of Mesopotamia. Beyond the mountaine Taurus, it is Sophene: but on this side the hill, they G
call Comagene. The countrey beyond Armenia, is Adiabenæ, named before time Assyria: but the marches of Syria which confront Cilicia, is knowne by the name of Antiochia. The whole length of Syria, from the frontiers of Cilicia to Arabia, containeth 470 miles: the bredth betweene Seleucia Pieria, to Zeugina a towne seated upon Euphrates, taketh 175 miles. They that make a more subtill and particular division, would have Phœnice to be environed with Syria. And first, as you come from Arabia, is the sea-coast of Syria, which compriseth in it Idumæa and Iudæa: then, you enter into Phœnicia, and so into Syria again, when you are past Phœnicia. And within-forth farther into the countrey, Phœnice is enclosed with Syria Damascena. All that sea yet, which beateth upon that coast, beareth the name of the Phœnician sea. As for the nation it selfe of the Phœnicians, have been highly reputed for their Science and learning, H
and namely, for the first invention of letters, for their knowledge in Astrologie, navigation, and martiall skill. Being past Pelusium, you come to a citie called Chabriæ Castra to the mountain Casius, and the temple of *Iupiter Casius*: also the tombe of *Pompeius Magnus*; and last of all to the citie Ostracium. To conclude, from Pelusium to the frontiers of Arabia the Desert [along the coast of Syria] are 65 miles.

Chap. xiii.

Idumæa, Syria, Palæstina, Samaria.

SOon after, beginneth Idumæa & Palestina, even from the rising up of the lake Sirbon, which I
some have reported to carie a circuit of 150 miles. *Herodotus* saith, it is hard under the foot of the hill Casius: but at this day it is but a small lake. As for the townes there, they be Rhinocolura, and more within the land, Rhaphæa: also Gaza a port towne, and farther within, Anthedon, and the mountain Angoris. From thence you discend to the coasts of Samaria, the free citie Ascalon, and Azotus: the two Iamnes, whereof the one is well within the land; and so forward to Ioppe, a towne in Phœnicia, which by report, is more auncient than the deluge. Situate it is upon an hill, with a rocke before it, wherein are to be seene the tokens and reliques of ladie *Andromedaes* prison where she was bound. Within a chappell there, the Siren *Decreto*, whereof the Poets tell such tales, is worshipped. Being past Ioppe, you meet with Apollonia: the towne of Strato, called also Cæsarea, founded by king *Herode*: it beareth now the name of Prima Flavia, a colonie there planted and endowed with priviledges by *Vespasian* the Emperor. The bounds K
of Palæstina be 180 miles from the confines of Arabia: and there entreth Phœnice. Within-forth in the countrey, are the townes of Samaria, and Neapolis, which beforetime was named Mamortha [or Maxbota.] Also Sebaste upon the mountaine, and Gamala, which yet standeth higher than it.

Chap. xiiii.

Iurie and Galilæa.

ABove Idumæa and Samaria, Iudæa spreadeth out farre in length and bredth. That part
of it which joyneth to Syria, is called Galilæ: but that which is next to Syria and Ægypt, L
is named Peræa, [*i.* beyond Iorden:] full of rough mountaines dispersed here and there: and severed it is from other parts of Iurie, by the river Iordan. As for the rest of Iudæa, it is divided into ten governments or territories, called Toparchies, in this order following: to wit, that of Hiericho, a vale richly planted with date trees: Emmaus, well watered with fountaines: Lydda, Ioppica, Accrabatena, Gophnitica, Thamnitica, Betholene, Tephenæ, and Orine, wherein stood Hierusalem, the goodliest citie of all the East parts, and not of Iurie onely. In it also is the principalitie Herodium, with a famous towne of that name.

Chap. xv.

Iordane the river. M

THe river Iordan springeth from the fountaine Paneades, which gave the surname to the citie Cæsarea, whereof wee will speake more. A pleasant river it is, and as the site of the countrey will permit and give leave, winding and turning in and out, seeking as it were for

love

A loue and fauour, and applying it ſelfe to pleaſe the neighbour inhabitants. Full againſt his will, as it were, he paſſeth to the lake of Sodome, Aſphaltites, that ill-fauoured and curſed lake: and in the end falleth into it, and is ſwallowed up of it, where amongſt thoſe peſtilent and deadly waters, he looſeth his owne that are ſo good and wholſome. And therefore to keepe himſelfe out of it as long as hee poſſibly could, vpon the firſt opportunitie of any valleys, hee maketh a lake, which many call Geneſara, which is 16 miles long, and ſixe broad. The ſame lake is environed with divers faire and beautifull townes, to wit, on the Eaſt ſide, with Iulias and Hippo; on the South, with Tarichea, of which name, the lake by ſome is called Tarichian: and on the Weſt, with Tiberias, an healthfull place for the baines there of hote waters.

B

Chap. XVI.

Aſphaltites.

ASphaltites, or the lake of Sodome, breedeth and bringeth forth nothing but Bitumen; and thereupon it tooke the name. No liuing bodie of any creature doth it receiue into it: bulls and camels ſwim and flote aloft upon it. And hereupon ariſeth that opinion which goeth of it, That nothing there will goe downe and ſinke to the botome. This lake in length exceedeth 100 miles, 25 miles ouer it is at the broadeſt place, and ſixe at the narroweſt. On the Eaſt, the Arabian Nomades confront it; and on the South ſide, Machærus regardeth it: in time paſt, the ſecond fortreſſe of Iudæa, and principall next to Ieruſalem. On the ſame coaſt, there is a fountaine
C of hote waters, holſome and medicinable, named Callirhoe, and good againſt many diſeaſes. The very name that it carrieth, importeth no leſſe praiſe and commendation.

Chap. XVII.

The people Eſſeni.

ALong the Weſt coaſt, inhabite the Eſſeni. A nation this is, liuing alone and ſolitarie, and of all others throughout the world moſt admirable and wonderfull. Women they ſee none: carnall luſt they know not: they handle no money: they lead their life by themſelues, and keepe companie onely with Date trees. Yet neuertheleſſe, the countrey is euermore
D well peopled, for that daily numbers of ſtraungers reſort thither in great frequencie from other parts: and namely, ſuch as be wearie of this miſerable life, are by the ſurging waues of frowning fortune driuen hither, to ſort with them in their manner of liuing. Thus for many thouſand yeers [a thing incredible, and yet moſt true] a people hath continued without any ſupply of new breed and generation. So mightily encreaſe they euermore, by the weariſome eſtate and repentance of other men. Beneath them, ſtood ſometime Engadda, for fertilitie of ſoile and plentie of Date-tree groues, accounted the next citie in all Iudæa, to Ieruſalem. Now, they ſay, it ſerueth for a place onely to interre their dead. Beyond it, there is a caſtle or fortreſſe ſituate upon a rocke, and the ſame not farre from the lake of Sodome Aſphaltites. And thus much as touching Iudæa.

E

Chap. XVIII.

Decapolis. [i. Cœle-Syria.]

THere joyneth unto it on Syria ſide, the region Decapolis, ſo called of the number of townes and cities in it. Wherein, all men obſerue not the ſame, nor make like account: howbeit moſt men ſpeake of Damaſcus and Opotos, watered with the riuer Chryſorrhoa. Alſo, Philadelphia, renowmed for the fruitfull territorie about it. Moreouer, of Scythopolis, taking name of the Scythians there planted: and beforetime Myſa, ſo named of Prince or Father *Bacchus*, by reaſon that his nource there was buried. Alſo Gadara, ſituate upon the riuer Hieromiax, running euen before it. Beſides, the above-named Hippos Dios. Likewiſe Pella, enriched with
F the good fountaines: and laſt of all, Galaza and Canatha. There lye betweene and about theſe cities, certaine Royalties called Triarchies, containing every one of them as much as an whole countrey: and reduced they be as it were into ſeuerall countries, namely, Trachonitis Paniæas, wherein ſtandeth Cæſarea, with the fountaine above-ſaid, Abila, Arca, Ampeloeſſa, and Gabe.

Chap. xix.

Tyre and Sidon.

REturne now we muſt to the ſea-coaſt of Phœnice. A river runneth there called Crocodilon, whereupon ſtood a towne in times paſt bearing the name. Alſo there remaine in thoſe parts the bare reliques ſtill of cities, to wit, Dorum, Sycaminum, the cape or promontorie Carmelum: and a towne upon the hill, ſo named; but in old time called Ecbatana. Nere thereto Getta and Iebba: the river Pagida or Pelus, carrying chryſtall glaſſe with his ſands upon the ſhore. This river commeth out of the meere Ceudevia, from the foot of mount Carmell. Nere unto it is the citie Ptolemais, erected in forme of a colonie, by *Claudius Cæſar*; in auncient time called Are. The towne Ecdippa, and the cape Album. Then followeth the noble citie Tyrus, in old time an Iland, lying almoſt 3 quarters of a mile within the deepe ſea: but now, by the great travaile and deviſes wrought by *Alexander* the Great at the ſiege thereof, joyned to the firme ground: renowmed, for that out of it have come three other cities of ancient name, to wit, Leptis, Vtica, and that great Carthage, which ſo long ſtrove with the Empire of Rome for the monarchie and dominion of the whole world: yea and Gades, divided as it were from the reſt of the earth, were peopled from hence. But now at this day all the reputation and glory thereof, ſtandeth upon the dye of purple and crimſen colours. The compaſſe of it is 19 miles, ſo ye compriſe Palætyrus within it. The very towne it ſelfe alone, taketh up 22 ſtadia. Neere unto it are theſe townes, Luhydra, Sarepta, and Ornithon: alſo Sydon, where the faire and cleer glaſſes be made, and which is the mother of the great citie Thebes in Bœotia.

Chap. xx.

The mount Libanon.

BEhind it, beginneth the mount Libanus, and for 1500 ſtadia reacheth as farre as to Smyrna, whereas Cœle-Syria taketh the name. Another promontorie there is as bigge over-againſt it, called Antilibanus, with a valley lying betweene, which in old time joyned to the other Libanus with a wal. Being paſt this hil, the region Decapolis ſheweth it ſelfe to you withinforth, called Decapolis; and the above-named Tetrarchies or Realmes with it, and the whole largeneſſe that Paleſtine hath. But in that coaſt and tract ſtill along the foot of the mount Libanus, there is the river Magoras: alſo the colonie Berytus, called Fœlix Iulia. The towne Leontos; the river Lycos: alſo Palæbyblos, [*i.* Byblos the old.] Then ye come upon the river Adonis; and ſo to theſe townes, Byblos [the new,] Botrys, Gigarta, Trieris, Calamos, and Tripolis, under the Tyrians, Sydonians, and Aradians. Then meet you with Orthoſia, and the river Eleutheros. Alſo theſe townes, Simyra, Marathos; and over-againſt, Aradus, a towne of ſeven ſtadia: and an Iland leſſe than a quarter of a mile from the Continent. When you are once paſt the countrey where the ſaid mountaines doe end, and the plaines lying betweene, then beginneth the mount Bargylis: and there, as Phœnice endeth, ſo begins Syria againe. In which countrey, are Carne, Balanea, Paltos, and Gabale: alſo the promontorie, whereupon ſtandeth the free citie Laodicea, together with Dioſpolis, Heraclea, Charadrus, and Poſidium.

Chap. xxi.

Syria Antiochena.

GO forward in this tract, and you ſhall come to the cape of Syria Antiochena: withinforth is ſeated the noble and free citie it ſelfe Antiochena, ſurnamed Epidaphne: through the mids whereof runneth the river Orontes. But upon the very cape, is the free citie Seleucia, named alſo Pieria.

Chap. xxii.

The mount Caſius.

ABove the citie Seleucia, there is another mountaine named Caſius, as well as that other, which confronteth Arabia. This hill is of that heigth, that if a man be upon the top of it in the darke night ſeaſon, at the reliefe of the fourth watch, he may behold the Sunne ariſing.

A sing. So that with a little turning of his face and bodie, hee may at one time, see both day and night. To get up by the ordinarie high way to the verie pitch of it, a man might fetch a compasse of 19 miles; but climbe directly upright, it is but foure miles. In the borders of this countrey, runneth the river Orontes, which ariseth betweene Libanus and Antilabanus, neere to Heliopolis. Then, the towne Rhosos appeareth: and behind it, the streight passages and gullets betweene the mountaines Rhosij and Taurus, which are called Portæ Syriæ. In this tract and coast, standeth the towne Myriandros, the hill Avanus (where is the towne Bomilæ) which separateth Cilicia from the Syrians.

Chap. XXIII.

B

Cœle-Syria, [or high Syria.]

It remaineth now, to speake of the townes and cities in the mid-land parts within the firme land. And to begin with Cœle-Syria, it hath in it Apamia, separated from the Nazerines Tetrarchie by the river Marsia: likewise Bambyce, otherwise called Hierapolis; but of the Syrians, Magog. There, is honoured the monstrous Idoll of the Meermaid, Atargatis, called of the Greeks, Decreto. Also Chalcis with this addition, Vpon Belus: from which, the region Chalcidene, which is most fertile of all Syria, taketh name. Then have you the quarter Cyrrhistica, with Cirrhus, Gazatæ, Gindarenes, and Gabenes. Moreover, two Tetrarchies, called Granicomatæ. Over and besides, the Hemisenes, Hylates, the Ituræans countrie, (and principally those of them
C who are named Betarrani) & the Mariammitanes. The Tetrarchie or Principalitie, named Mammisea: the citie Paradisus, Pagræ, Pinarites, and two Seleuciæ, besides the above-named, one called Vpon Euphrates, and the other, Vpon Belus: and last of all, the Carditenses. The rest of Syria, hath these States (over and above those which shall be spoken of with the river Euphrates) the Arethusians, Berænses, and Epiphanenses. And Eastward, the Laodicenes, namely, those who are entituled, Vpon Libanus: the Leucadians, and Lariss æans: besides 17 Tetrarchies reduced into the forme of Realmes, but their names are but barbarous.

Chap. XXIIII.

D

Euphrates.

And here, me thinkes, is the fittest and meetest place to speake of Euphrates. The fource of it, by report of them that saw it last and neerest, is in Caranitis, a State under the government of Armenia the greater: and those are *Domitius* and *Co. bulo*, who say, That it springeth in the mountaine Aba. But *Licinius Mutianus* affirmeth, That it issueth from under the foot of the mountaine, which they call Capotes, 12 miles higher into the countrey, than is Simyra: and that in the beginning it was called Pyxirates. It runneth first directly to Derxene, and so forth to Ana also, excluding the regions Armeniæ, the greater as well as the lesse, from Cappadocia. The Dastusæ from Simyra are 75 miles. From thence it is navigable to Pastona, fiftie miles: from it to Melitene in Cappadocia, 74 miles. So forward to Elegia in Armenia,
E ten miles: where hee receiveth these rivers, Lycus, Arsania, and Arsanus. Neere to Elegia, hee meeteth afront with the hill Taurus: yet stayeth hee not there, but prevaileth and pierceth thorow it, although it beare a breadth there of twelve miles. At this entrie where hee breaketh thorough the hill, they call him Omiras: and so soone as he hath made way and cut through it, he is named Euphrates. And yet being past this mountaine, full of rockes hee is and very violent. Howbeit hee passeth through the countrey of the Mœri, where he carrieth a streame of three Schœnes breadth, where hee parteth Arabia on the left hand, from Comagene on the right. And nevertheless, even there whereas hee conquereth and getteth the upper hand of Taurus, he can abide a bridge to be made over him. At Claudiopolis in Cappadocia, hee taketh his course Westward. And now the mountaine Taurus, for all he was resisted and over-
F come at first, impeacheth and hindreth him of his way: and notwithstanding (I say) hee was over-matched and dismembred one peece from another, hee getteth the better of him another way, hee breaketh his course now, and drives him perforce into the South. Thus Nature seemeth to match the forces of these two champions equally in this maner, That as Euphrates goeth on still without stay as far as he will, so Taurus will not suffer him yet to run what way he will.

Now

Now, when these Cataracts and downefals of the river are once past, navigable it is againe, and G
fortie miles from that place standeth Samosata the head cittie of all Comagene. Now, hath Arabia besides the townes aforesaid, Edessa, sometime called Antiochea, Callirhoe taking name of the fountaine: and Carræ so famous and renowned for the defeature there of *Crassus* and his armie. Hereunto joineth the government and territorie of Mesopotamia, which also taketh the first beginning from the Assyrians, in which stand the townes Anthemusa and Nicephorium. Having passed this countrey, streight waies yee enter upon the Arabians called Rhetavi, whose capitall cittie is Singara. Now to returne to Samosatæ, from it in the coast of Syria, the river Marsyas runneth into Euphrates. As Gingla limitteth Comagene, so the land of the Meri beginneth there. The townes Epiphania and Antiochia have the river running close to them, and hereupon they have this addition in their names, Standing upon Euphrates. Zenyma likewise H
72 miles from Samosatæ is ennobled for the passage over Euphrates: for joined it is to Apamia right against, by a bridge, which *Seleucus* the founder of both, caused to bee made. The people that joine hard to Mesopotamia, bee called Rhoali. As for the townes of Syria which bee upon this river, are Europum, Thapsacum in times past, at this present Amphipolis; and last of all the Arabian Scænitæ. Thus passeth Euphrates, as farre as to the land Vra, where, turning his course to the East he leaveth behind him the desarts of Palmyra in Syria, which reach to the cittie Petra and the countrey of Arabia called Happie.

Chap. XXV.

Palmyra. I

THe noble cittie Palmyra is passing well seated, as well for the riches of the soile, as for that it hath water at commaundement, which embelish and set out the countrey on every side. As rich and long as it is, the territorie all about is environned and enclosed with barres of sands. And as if Nature had a desire to exempt it from all other lands to live apart in peace, shee hath set it just in the middest and confines betweene two puissant and mightie Empires, to wit, the Romanes and the Parthians. For there is not so soone any warre proclaimed betweene those two States and Monarchies, but at first they have on both sides a regard of it as a neutre. It is from Seleucia of the Parthians, namely that upon Tigris, 537 miles: and from the next port or coast of Syria 252: and from Damasco, 27 neerer.

K

Chap. XXVI.

Hierapolis.

BEneath the desarts and wilderneſſe of Palmyra, lieth the countrey Stelendena, wherein are the citties named at this day Hierapolis, Berœa and Chalcis. Beyond Palmyra also, Hemesa taketh up some part of those said desarts: and likewise Elutium, neerer to Petra by the one halfe than is Damascus. And next to Afura standeth Philiscum, a towne of the Parthians, upon Euphrates. From which by water it is a journey of tenne daies to Seleucia, and from thence as many likewise to Babylon. For Euphrates, foureſcore and three myles from Zeugma, about the village Massice, devideth it selfe into two armes: on the left side hee passeth into Mesopotamia, even through Seleucia, and about it entreth into the river Tygris that runneth L
hard by: but on the right hand, he carrieth a current in his channell toward Babylon, the cheefe cittie sometime of Chaldæa; and passing through the middest thereof, as also of another which they call Otris, hee parteth asunder into sundrie Lakes and Meeres. And there an end of Euphrates. Hee riseth and falleth at certaine times after the order of Nilus: yet some little difference there is betweene them in the manner, for he overfloweth Mesopotamia, when the Sunne is the 20 degree of *Cancer*, and beginneth againe to diminish and slake, when the Sunne is past *Leo*, and is newly entred into *Virgo*: so as in the 29 degree of *Virgo*, he is downe againe, and come to his ordinarie course.

Chap. XXVII.

Cilicia, and the nations adioining, to wit, Isauricæ, Homonades, Pisidia, Lycaonia, Pamphylia: the mountaine Taurus, and Lycia. M

BVt time it is to returne now to the coasts of Syria, and to Cilicia that confronteth it. Where in the first place we meet with the river Diaphanes, the mountaine Crocodilus, the streights and

A and paſſages of the mount Amanus: more rivers alſo, to wit, Andricon, Pinarus and Lycus, together with the gulfe Iſſicus. The towne Iſſa ſtandeth upon it, then come wee to Alexandria, to the river Chlorus, the free towne Æge, the river Pyramus, and the ſtreights in the entrance to Cilicia. Beyond them we encounter the townes Mallos and Magarſos. As for Tarſos, it is more within the countrey. From this towne wee enter upon the plaines Aleij, and ſo forward to theſe townes, Caſſipolis and Mopſum, which is free, and ſtandeth upon the river Pyramus; Thynos, Zephyrium, and Anchialæ. On forth ſtill, and yee ſhall have the rivers Saros and Sydnus, which runneth through. Tarſus a free cittie, farre from the ſea: then are yee in the countrey Celeuderitis, together with the capitall towne thereof. And anon yee ſhall ſet foot in a place called Nymphæum; and Solœ Cilicij now Pompeiopolis, Adana, Cibira, Pinara, Pedalie, Halix, Arſinoe;

B Tabæ, and Doron: and neere the ſea ſide ye ſhall find a towne, an harbour and a cave, named all Corycos. Soone after, the river Calycadnus. The cape Sarpedon, the townes Olme and Mylæ, the cape and towne both of *Venus*, the very next harbour from whence men paſſe into the Iſle Cypres. But in the maine land ye ſhall find theſe townes, Myanda, Anemurium, Coraceſium: and the river Melas, the ancient bound that limitteth Cilicia. Farther within-forth are to be ſpoken of, the Anazarbenes, at this day Cæſar-Auguſtani; Caſtabla, Epiphania, beforetime Eniandos, Eleuſa, and Iconium. Seleucia upon the river Calicadmus, ſurnamed alſo Trachiotis, a citie removed backward from the ſea, where it was called Hormia. Furthermore, within the countrey, the rivers Liparis, Bombos, and Paradiſus. Laſt of all, the mountaine Iubarus. All Coſmographers have joined Pamphylia to Cilicia, and never regarded the nation Iſaurica. But a countrey

C it is by it ſelfe, having within it theſe townes, Iſaura, Clibanus, Lalaſſis. And it ſhooteth downe to the ſea ſide full upon the frontiers of the countrey Anemurium aboveſaid. In like ſort, as many as have ſet forth Maps and deſcriptions of the world, had no knowledge at all of the nation Homonades confining upon it, notwithſtanding they have a good towne within it, called Homona. Indeed the other fortreſſes to the number of 44, lie hidden cloſe among the hollow vallies and hils of that countrey. There inhabite the mountainers over their heads, the Piſidians ſometime called Sobymi, whoſe cheefe Colonie is Cæſarea, the ſame that Antiochia. Their townes be Oroanda, and Sagaleſſos. This nation is encloſed as it were within Lycaonia, lying within the juriſdiction of the leſſe Aſia: and even ſo together with it, the Philomelians, Tymbrians, Leucolithi, Pelteni, and Hyrienſes, reſort thither for law and juſtice. There is a government or tetrarchie

D alſo, but out of the quarter of Lycaonia, on that ſide that bordereth upon Galatia: unto which belong foureteene States or citties, whereof the principall is called Iconium. As for the nations of Lyconia, thoſe of any name, be Tembaſa upon Taurus, Sinda in the confines of Galatia and Cappadocia. But on the ſide thereof above Pamphilia, yee meet with Mylіæ, deſcended in old time from Thrace, who have for their head cittie Aricanda. As for Pamphylia, it was in auncient time called Mopſopia. The Pamphylian ſea joineth to the Cilician. The townes ſituate upon that coaſt, be Side, Aſpendus on the hill, Plataniſtus, and Perga. Alſo the cape Leucolla, the mount Sardemiſus, the river Eurymedon running hard by Aſpendum. Moreover, Cataractes the river, neere unto which ſtand Lyrneſſus and Olbia; and the utmoſt towne of all that coaſt, Phaſelis. Faſt upon it lieth the Lycian ſea, and the nation of the Lycians, where the ſea maketh an huge

E great gulfe. The mountain Taurus likewiſe, confining upon the Levant ſea, doth limit Lycia and Cilicia, with the Promontorie Chelidonium. This Taurus is a mightie mountaine, and determineth as a judge an infinite number of nations. So ſoon as he is riſen from the coaſt of the Eaſt Indian ſea, he parteth in twaine: and taking the right hand, paſſeth Northward, and on the left hand Southward, ſomewhat bending into the Weſt: yea, and deviding Aſia through the mids: and (but that he meeteth with the ſeas) readie to ſtop up & dam the whole earth beſides. He retireth backe therefore, as being curbed, toward the North; fetching a great circuit, and ſo making himſelfe way, as if Nature of purpoſe oppoſed the ſeas eftſoones againſt him to barre him of his paſſage; of one ſide the Phœnician ſea, on another the great ſea of Pontus; the Caſpian and Hyrcanian ſeas likewiſe, and full againſt him the Lake Mœotis. And notwithſtanding all theſe

F barres, within which he is pent, twined, and wreſted, yet maketh hee meanes to have the maiſtrie and get from them: and ſo winding bias, hee paſſeth on, untill hee encounter the Riphæan hils, which are of his owne kind: and ever as he goeth, is entituled with a number of new names. For where hee firſt beginneth, called hee is Imaus: a little forward Emodus, Paropamiſus, Circius, Canibades, Parphariades, Choatras, Oreges, Oroandes, Niphates, and then Taurus. Howbeit,

where

where he is higheſt, and as it were, overreacheth himſelfe, there they name him Caucaſus: where G
he ſtretcheth forth his armes, like as if he would now and then be doing with the ſeas, hee chan-
geth his name, to Sarpedon, Coraceſius, and Cragus: and then once againe hee taketh his for-
mer name Taurus, even where he openeth, and maketh paſſage as it were to let in the world. And
yet for all theſe waies and ouvertures, he claimeth his owne ſtill, and theſe paſſages are called by
the names of gates, in one place Armeniæ, in another Caſpiæ, and ſometime Ciliciæ. Over and
beſides, when he is broken into parcels, and eſcaped farre from the ſea, he taketh many a name of
diverſe and ſundrie nations on every ſide, for on the right hand he is termed Hyrcanus and Caſ-
pius: on the left, Pariedrus, Moſchicus, Amazonicus, Coraxicus, and Scythicus. And generally
throughout all Greece, Ceraunius.

To returne then to Lycia, being paſt the foreſaid cape there Chelidonium, yee come to the H
towne Simena, the hill Chimæra, which caſteth flames of fire every night, the cittie Hephæſti-
um, where the mountaines about it likewiſe oftentimes, are knowne to burne. Sometime the citie
Olympus ſtood there, but now, nothing to bee ſeene but mountaines, and among them theſe
townes, Gage, Corydalla, and Rhodiopolis. Vpon the ſea coaſt, the citie Lymira upon a river, un-
to which Arycandus runneth: alſo the mountaine Maſſyrites, the citties Andriara and Myra.
Moreover, theſe towns, Apyre and Antiphellos, which ſometime was called Habeſſus, and more
within-forth in a corner, Phellus. Then come ye to Pyrrha, and ſo forth to Xanthus, fifteen miles
from the ſea, and to a river likewiſe of that name. Soone after ye meet with Patara, beforetime na-
med Sataros, and Sydinia ſeated upon an hill, and ſo to the Promontorie Ciagus. Beyond which
ye ſhall enter upon a gulfe as big as the former, upon which ſtandeth Pinara, and Telmeſſus, the I
utmoſt bound in the marches of Lycia. In auncient time Lycia had in it threeſcore townes, but
now not above 36. Of which, the principall and of greateſt name beſides the abovenamed, bee
Canæ, Candyba, where is the famous wood Oenium, Podalia, Choma upon the river Adeſa,
Cyane, Aſcandalis, Amelas, Noſcopium, Tlos, and Telanorus. As for the midland parts of the
maine, you ſhall find Chabalia, with three townes thereto belonging, Oenonda, Balbura, and
Bubon.

When you are beyond Telmeſſus, you meet with the Aſiaticke ſea, otherwiſe called Carpa-
thium, and this coaſt is properly called Aſia. *Agrippa* hath devided it in two parts, whereof the
one by his deſcription confronteth upon Phrygia and Lycaonia, Eaſtward: but on the Weſt ſide
it is limitted with the Ægean ſea. Southward it boundeth upon Ægypt: and in the North upon K
Paphlagonia. The length thereof by his computation, is 470 miles, the breadth 300. As for the
other, hee ſaith, That Eaſtward it confineth upon Armenia the leſſe: Weſtward upon Phrygia,
Lycaonia, and Pamphylia. On the North it butteth upon the province or realme of Pontus: and
on the South ſide is encloſed with the Pamphylian ſea. He addeth moreover, That it containeth
575 miles in length, and 325 in breadth. The next coaſt bordering thereupon, is Caria: and
when you are paſt it, Ionia, and beyond that, Æolis. As for Caria, it encloſeth Doris in the mids,
environning it round on every ſide, as farre as to the ſea. In it is the Cape Pedalium, alſo the river
Glaucus, charged with the river of Telmeſſus. The townes of any reſpect be Dædala and Crya,
peopled onely with baniſhed perſons. Therein you find the river Axoum, and the towne Ca-
lydua. L.

Chap. xxviii.

The river Indus.

THe river Indus, ariſing from the mountaines of the Cybirates, receiveth into it threeſcore
other running rivers maintained with ſprings, of other ſmall rivers and brookes fed with
land flouds, above an hundred. Vpon it ſtandeth the free towne Caunos, and a little off, Pyr-
nos. Soone after ye meet with the port Creſſa, overagainſt which is diſcovered the Iſland Rho-
dus, within the kenning of twentie myles. Being paſt that haven, you ſhall enter upon the plaine
Loryma, upon which are ſeated the townes Tyſanuſa, Taridion, Larymna. Then meet you with M
the gulfe Thymnias and the cape Aphrodiſias: and on the other ſide of it the towne Hyda, and
another gulfe Schœnus. Then followeth the countrey Bubaſſus, wherein ſtood in auncient time
the towne Acanthus, otherwiſe called Dulopolis. Alſo upon the cape there, the free cittie Gni-
dos, Triopia, then Peguſa, called likewiſe Stadia. Beyond which you enter into the countrey of
Doris.

A Doris. But before we paſſe farther, meet it were to ſpeake of thoſe cities and States which are in the midland countrey, and which lie behind: and namely of one, named Cibiratica. The towne it ſelfe is in Phrygia, and to it reſort for law and juſtice 25 cities.

Chap. xxix.

Laodicea, Apamia, Ionia, Epheſus.

THe principall cittie in thoſe quarters (of the Cibirates) is Laodicea. Seated it is upon the river Lycus: and yet there run hard to the ſides thereof two other rivers, Aſopus, and Caper. This citie in times paſt was called Dioſpolis, and afterwards Rhoas. The other nations
B belonging to that juriſdiction of the Cibirates, worth the naming, be the Hydrelites, Themiſones, and Hierapolites. Another countie-court or towne of reſort there is, which taketh the name of Synnada: and to it repaire for juſtice, the Licaonians, Appians, Encarpenes, Dorylæi, Midæi, Iulienſes, and other States of no great reckening, fifteene. A third Seignorie or Shire there is that goeth to Apamia, which in old time was called Celænæ, and afterwards Ciboron: ſituate it is at the foot of the hill Signia, environed with three rivers, Marſyas, Obrima, and Orga, falling all into the great river Mæander. As for the river Marſyas (which a little from his ſpring was hidden under the ground, where as *Marſyas* the muſician ſtrove with *Apollo* in playing upon the flute) ſheweth himſelfe againe in Aulocrenæ, for ſo is the valley called, ten miles from Apamia, as men travaile the high way to Phrygia. Vnder this juriſdiction, we ſhould doe well to
C name the Metropolites, Dionyſopolites, Euphorbenes, Acmoneſes, Peltenes, and Silbians. There are beſides, to the number of 60 ſmall townes of no account. But within the gulfe of Doris, there ſtand Leucopolis, Amaxites, Eleus, and Euthenæ. Moreover, other townes of Caria, Pitaium, Eutaniæ, and Halicarnaſſus. And to this cittie were annexed, as ſubject and homages by *Alexander* the Great, ſixe other townes, namely, Theangela, Sibde, Medmoſſa, Euranium, Pedaſium, and Telneſſum: which townes are inhabited between the two gulfes, Ceramicus, and Iaſius. From thence yee come to Myndus, and where ſometime ſtood Palæmyndus, Neapolis, Nariandus, Carianda, the free citie Termera, Bergyla, and the town Iaſus which gave the name to the gulfe Iaſius. But Caria is moſt renowmed and glorious for the places of name within it in the firme land: for therein are theſe citties, to wit, Mylaſa free, and Antiochia, now ſtanding
D where ſometime were the townes, Seminethos, and Cranaos: and environed now it is about with the rivers Mæander, and Moſſinus. In the ſame tract ſtood ſometime Mæandropolis alſo. There is beſides, the citie Eumenia, upon the river Cludrus: the river Glaucus: the towne Lyſias, and Orthaſia. The tract or marches of Berecinthus, Nyſa, Tralleis, which alſo is named Euanthia, Seleucia, and Antiochia; which is ſituate upon the river Eudone that runneth hard by it, and Thebanis which paſſeth quite through it. Some there be, who report, that the dwarfes called Pigmæi, ſometime there dwelt. In which region beſides, were theſe townes, Thydonos, Pyrrha, Eurome, Heraclea, Amyzon, and the free citie Alabanda, whereof that ſhierewicke or juriſdiction tooke name. Alſo the free towne Stratonicea, Hynidos, Ceramus, Troezene, and Phorontis. Yea there be nations farther remote, that reſort thither to plead and have juſtice in
E that Court: namely, the Othroniens, Halydiens or Hyppines, Xyſtianes, Hydiſſenſes, Apolloniates, Trapezopolites, and of free condition the Aphrodiſians. Over and beſides theſe, there are Coſſinus, and Harpaſa, ſituate upon the river Harpaſus, which alſo ran under Trallicon, when ſuch a towne there was. As for the countrey of Lydia, watered it is in many places with the recourſe of Mæanders ſtreame, winding and turning in and out, as his manner is: and it reacheth above Ionia: confining upon Phrygia in the Eaſt, upon Miſia in the North, and in the South ſide encloſing all the countrey of Caria. This Lydia was ſometimes named Mœonia. The capitall citie of this region, is Sardis, ſeated upon the ſide of the mountaine Tmolus, called beforetime Timolus, a hill well planted with vineyards. Moreover, renowmed is this countrey for the river Pactolus iſſuing forth of this mountaine; which river is called likewiſe Chryſorrhoa: as alſo for the fountaine Tarnes. The citie aboveſaid, was commonly by the Mœonias called Hyde,
F famous for the meere or lake of Gyges. All that juriſdiction is at this day called Sardinia. Thither reſort beſides the abovenamed, the Caduenes, deſcended from the Macedonians; the Lorenes, Philadelphenes, yea and the very Mœonians, ſuch as inhabite upon the river Cogamus at the foot of Tmolus; and the Tripolitanes who together with the Antoniopolites, dwell upon the

the river Mæander. Furthermore, the Apollonos-Hieritæ, Myſormolites, and others of ſmall reputation. G

Ionia beginneth at the gulfe Iaſius, and all the coaſt thereof is very full of creekes and reaches. The firſt gulfe or creeke therein is Baſilicus; and over it the cape Poſideum, and the towne called ſomtime, the Oracle of Branchidæ, but at this day, of Apollo Didymæus, 20 ſtadia from the ſea ſide. Beyond which 180 ſtadia, ſtandeth Milletus, the head citie of Ionia, named in time paſt Lelegeis, Pityuſa, and Anactoria. From which, as from a mother citie, are deſcended more than eightie others, all built along the ſea-coaſt by the Milleſians. Neither is this citie to be defrauded of her due honour, for bringing forth that noble cittizen *Cadmus*, who deviſed and taught firſt to write in Proſe. Concerning the river Mæander, it iſſueth out of a lake at the foot of the mountaine Aulocrene: and paſſing under many towns, and filled ſtill with as many rivers H running into it, it fetcheth ſuch windings to and fro, that oftentimes it is taken for to run backe againe from whence it came. The firſt countrey that it paſſeth through, is Apamia: and from thence it proceedeth to Eumenitica, and ſo forward through the plaines Bargylletici. Laſt of all, hee commeth gently into Caria, and when hee hath watered and overflowed all that land with a moſt fat and fruitfull mud that he leaveth behind him, about ten ſtadia from Miletus, hee diſchargeth himſelfe into the ſea. Neere to that river, is the hill Latmus: the citie Heraclea, ſurnamed Caryca, of an hill of that name: alſo Myus, which as the report goeth, was the firſt citie founded by the Ionians after their arrivall from Athens, Naulochum, and Pyrene. Alſo upon the ſea coaſt, the towne called Trogilia, and the river Gelſus. Moreover, this quarter all the Ionians reſort unto in their devotion, and therefore named it is Panionia. Neere unto it was built I a priviledged place for all fugitives, as appeareth by the name Phygela: as alſo the towne Marathefium ſtood there ſometime: and above it, the renowmed citie Magneſia, ſurnamed, Vpon Mæander; of the foundation of that other Magneſia in Theſſalie. From Epheſus it is 15 miles; and from Tralleis thither, it is three miles farther. Beforetime, called it was Theſſaloce, and Androlitia: and being otherwiſe ſituate upon the ſtrond, it tooke away with it other Ilands called Derafides, and joyne them to the firme land from out of the ſea. More within the maine ſtandeth Thyatira (in old time called Pelopia and Euhippa) upon the river Lycus. But upon the ſea coaſt, yee have Manteium, and Epheſus founded in times paſt by the Amazones. But many names it had gone through before; for in time of the Trojane warre, Alopes it was called: ſoon after, Ortygia, and Morges: yea and it tooke name Smyrne, with addition of Trachæa, [rough] K Samornium, and Ptelea. Mounted it is upon the hill Pione, and hath the river Cayſtrus under it, which commeth out of the Cilbian hills, and bringeth downe with it many other rivers, and principally is maintained and enriched with the lake Pegaſeum, which diſchargeth it ſelfe by reaſon of the river Phyrites that runneth into it. With theſe rivers he bringeth downe a good quantitie of mud, whereby he encreaſeth the land: for now alreadie a good way within the land, is the Iland Syrie, joyned to the Continent. A fountaine there is within the citie, called Callipia: and two rivers (hight both Selinus) comming from divers parts, environ the temple of *Diana*. After you have been at Epheſus, you come to another Manteium, inhabited by the Colophonians: and within, the country Colophon it ſelfe, with the river Haleſus under it. Then meet you with the noble temple of *Apollo Clarius*, and Lebedos. And in this quarter ſometime was to be L ſeene the towne Notium. The promontorie alſo Coryccon is in this coaſt: and the mountaine Mimas, which reacheth out 250 miles, and endeth at length in the plaines within the continent that joyne unto it. This is the place, wherein *Alexander* the Great commaunded a trench ſeven miles long and an halfe to be cut through the plaine, for to joyne two gulfes in one, and to bring Erythree and Mimas together for to be environed round therewith. Neere this citie Erythree were ſometimes the townes, Preleon, Helos, and Dorion: now, there is the river Aleon, and the cape Corineum: upon the mount Mimas, Clazomene, Partheniæ, and Hippi called Chytophoria, having beene ſometime Ilands: the ſame, *Alexander* cauſed to be united to the firme land, for the ſpace of two ſtadia. There have periſhed within forth and beene drowned, Daphnus, Hermeſia, and Sipylum, called before-time Tantalis, notwithſtanding it had beene the chiefe M citie of Meconia, ſituate in that place, where now is the meere or lake Salo. And for that cauſe Archæopolis ſucceeded in that preeminence, and after it Colpe, and in ſtead thereof Lebade. As you returne from thence toward the ſea ſide, about twelve miles off, you come upon the citie Smyrna, built by an Amazonite, but repaired and fortified by *Alexander* the Great. Si-

tuate

A tuate it is pleasantly upon the river Meles, which hath his head and source not farre off. The most renowmed hilles in Asia for the most part, spread themselves at large in this tract, to wit, Mastusia, on the backe side of Smyrna; and Termetis, that meeteth close to the foot of Olympus. This hill Olympus, taketh his end at the mountaine Tmolus; Tmolus at Cadmus; and Cadmus at Taurus. When you are past Smyrna, you come into certaine plaines, occasioned by the river Hermus, and therefore adopted in his name. This river hath his beginning neere unto Doryleus a citie of Phrygia, and taketh into it many other cities, and principally Phryge, which giveth name to the whole nation, and divideth Phrygia and Caria asunder. Moreover, Lyllus and Crios, which also are bigge and great by reason of other rivers of Phrygia, Mysia, and Lydia, which enter into them. In the verie mouth of this river stood somtime the towne Temnos: but
B now in the utmost nouke of the gulfe, certaine stonie rockes called Myrmeces. Also the towne Leuce upon the cape so called, sometime an Iland it was: and last of all, Phocæa, which limiteth and boundeth Ionia. But to returne unto Smyrna: the most part of Æolia, wherof we will speake anon, repaireth commonly thither to their Parliament and Assises. Likewise the Macedonians, surnamed Hircani, as also the Magnetes from Sipylum. But unto Ephesus, which is another principall and famous citie of Asia, resort those that dwell farther off, to wit, the Cæsarians, Metropolites, Cylbianes, the Myso-Macedonians, as well the higher as the lower, the Mastaurians, Brullites, Hyppepœnians, and Dios-Hieriteæ.

C

Chap. xxx.

Æolis, Troas, and Pergamus.

Æolis, in old time called Mysia, confronteth upon Ionia: so doth Troas, which boundeth upon the coast of Hellespontus. Being then past Phocæa, you meet with the port Ascanius, and the place where sometimes Lariſſa stood: and now Cyme, and Myrina which loveth to be called Sebastopolis. Within the firm land, Ægæ, Attalia, Posidea, Neon-tichos and Temnos. But upon the coast, the river Titanus, and a cittie taking name thereof. The time was when a man might have seene there the cittie Grynia: but now there is but an haven, and the bare ground, by reason that the Island is taken into it, and joyned thereto. The towne Elæa is
D not farre from thence; and the river Caicus comming out of Mysia. Moreover, the towne Pytane, and the river Canaius. Other townes there were in old time, but they are lost and perished, namely Canæ, Lysimachia, Atarnea, Carenæ, Cisthene, Cilla, Cocillum, Thebæ, Astyre, Chrysa, Palœstepsis, Gergithos, and Neandros. Yet at this day are to be seene, the cittie Perperene, and beyond it, the tract and territorie Heracleotes, the towne Coryphas, the river Gryliosolius, the quarter called Aphrodisias, before-time Politice. Orgas the countrey, and Scepsis the new. The river Evenus, upon the banke whereof stood once Lyrmessos and Miletos, but now they are gone. In this tract is the mountaine Ida. Moreover, in the sea-coast, Adramytteos, sometime called Pedasus, where the Parliament and Tearme is holden, and whereof the gulfe is named Adramitteos. Other rivers be there besides, to wit, Astron, Cormalos,
E Eryannos, Alabastros, and Hieros out of Ida. Within-forth be Gargara, a towne and hill both. And then againe toward the sea side, Antandros, before-time called Edonis: then, Cymeris, and Assos, which also is Apollonia. Long since also there was a towne called Palamedium. After all these, you come upon the cape Leolon, the middle frontier betweene Æolus and Troas. And there had been in auncient time, the cittie Polymedia, and Cryssa, with another Lariſſa also. As for the temple Smintheum, it remaineth still. But farther within, the towne Colone that was, is now decayed and gone, and the trafficke and negotiation in all affaires, turned from thence to Adramytteum. Now as touching the territorie of the Apolloniates, after you be past the river Rhyndicus, you find these States; the Eresians, Miletopolites, Pœmanenes, Macedonians, Aschilacæ, Polychnæi, Pionites, Cilices, and Mandagandenes. In Mysia, the
F Abrettines, and those called Hellespontij; besides others of base account and estimation. The first cittie you encounter in Troas, is Amaxitus: then, Cebrenia, and Troas it selfe, named sometime Antigonia, now Alexandria, and is entituled a Romane Colonie. Beyond Troas, standeth the towne Nee: there, runneth also Scamander, a river navigable: and Sigæum, a towne sometime, upon the cape so called. At length, you come to the haven of the

Greekes, into which Xanthus and Somoeis runne jointly together, as alſo Palæ-Scamander, G
but firſt it maketh a lake. The reſt that *Homer* ſo much ſpeaketh of, and namely, Rhæſius, Heptaporus, Careſus and Rhodius, there is no mention or token remaining of them. As for the river Granicus, it runneth from diverſe parts into the channell of Propontis. Yet there is at this day a little cittie called Scamandria: and one mile and an halfe from the port or Sea, the free cittie Ilium, that enjoieth many immunities and liberties: of which towne goeth all that great name. Without this gulfe, lieth the coaſt Rhœtea, inhabited with theſe townes upon it, namely, Rhœteum, Dardanium, and Arisbe. There ſtood ſometimes alſo Acheleum, a towne neare unto the tombe of *Achilles*: founded firſt by the Mityleneans, and afterwards reedified by the Athenians upon the Bay Sigæum, under which his fleet rode at anker. There alſo was Acantium built by the Rhodians, in another coine or canton of that coaſt, where *Aiax* was in- H
terred, a place thirtie ſtadia diſtant from Sigæum, and the very Bay wherein his fleet alſo lay at harbour. Above Æolis and one part of Troas, within the Continent and firme land, there is the towne called Teuthrania, which the Myſians in old time held. And there ſpringeth Caicus the river aboveſaid. A large countrey this is of it ſelfe, and eſpecially when it was united to Myſia, and all ſo called: containing in it Pioniæ, Andera, Cale, Stabulum, Coniſium, Tegium, Balcea, Tiare, Teuthranie, Sarnaca, Haliſerne, Lycide, Parthenium, Thymbrum, Oxyopum, Lygdanum, Apollonia: and Pergamus the goodlieſt cittie of them all by many degrees, through it paſſeth the river Selinus, and Cætius runneth hard under it, iſſuing out of the mountaine Pindaſus. And not farre from thence is Elea, which as we ſaid ſtandeth upon the ſtrond. And verily all that tract and jurisdiction is of that citie, named Perganena. To the parliament and judiciall Aſſiſes, there I
reſort the Thyatyrenes, Mygdones, Moſſines, Bregmenteni, Hieracomitæ, Perpereni, Tyareni, Hierapolenſes, Harmatapolites, Attalenſes, Pantaenſes, Apollonidenſes, and other pettie cities of no name and account. As for Dardanium, a pretie towne it is, threeſcore and tenne ſtadia diſtant from Rhœteum. Eighteene myles from thence is the cape Trapeza, where the ſea beginneth to ruſh roughly into the ſtreight Helleſpont. *Eratoſthenes* mine authour ſaith, That the cities of the Solymi, Leleges, Bebrices, Colycantij and Trepſedores ſometime flouriſhed, but now are utterly periſhed. *Iſidorus* reporteth as much of the Arymeos and Capretæ, the very place where Apamia was built by king *Seleucus*, betweene Cilicia, Cappadocia, Cataonia and Armenia. And for that hee had vanquiſhed moſt fierce and cruell nations, at the firſt hee named it Damea. K

Chap. xxxi.

The Iſlands lying before little Aſia, and in the Pamphylian ſea. Alſo Rhodus, Samus, and Chios.

THe firſt Iſland of Aſia is juſt againſt the mouth or channell of Nilus, called Canopicus, of *Canopus*, (as men ſay) the Pilot of king *Menelaus*. The ſecond is Pharus, which is joined to Alexandria by a bridge. In old time it was a daies ſailing from Ægypt to it: and now by fires from a watch-tower, ſaylers are directed in the night, along the coaſt of Ægypt. *Cæſar* L
Dictatour erected therein a Colonie. And in truth it ſerveth in right good ſteed as a Lanterne: for the havens about Alexandria be very daungerous and deceitfull, by reaſon of the barres and ſhelves in the ſea: and there are but three channels & no more, by which a man may paſſe ſafely to Alexandria, to wit, Tegamum, Poſideum, & Taurus. Next to that Iſle, in the Phænician ſea before Ioppa, lieth Paria, an Iſland of no great compaſſe, for it is all a bare towne. And this is the place, folke ſay, where ladie *Andromeda* was expoſed and caſt out to a monſter. Moreover, Arados, the Iſle beforenamed, betweene which and the Continent there is a fountaine, as *Mutianus* writeth, in the ſea where it is fiftie cubites deepe, out of which freſh water is drawn and conveighed from the very bottome of the ſea, through pipes made of leather. As for the Pamphylian ſea, it hath ſome ſmall Iſlands of little or no reckoning. In the Cicilian ſea there is Cyprus, M
one of the five greateſt in thoſe parts, and it lieth Eaſt and Weſt full againſt Cilicia and Syria. The ſeat it was in times paſt, whereunto nine kingdomes did homage, and of which they held. *Timoſthenes* ſaith, That it contained in circuit foure hundred and nineteene miles and an halfe: but *Iſidorus* is of opinion, that it is but three hundred ſeventie five miles about. The full length thereof

A thereof betweene the two capes, Dinaretas and Acamas, which is Southward, *Artemidorus* reporteth to bee a hundred and fixtie miles and a halfe: and *Timosthenes* two hundred, who saith besides, that sometime it was called Acamantis: according to *Philemides*, Cerastis: after *Anaxagoras*, Aspelia, Amathusia, and Macatia: *Asclepiades* calleth it Cryptos and Colinia. Townes there bee in it fifteene, Paphos, and Palæpaphos (that is, Paphos the new, and Paphos the old,) Curias, Citium, Corineum, Salamis, Amathus, Lapethos, Soloe, Tamasseus, Epidarum, Chyti, Arsinoe, Carpasium, and Golgi. There were in it besides, Cinirya, Marium, and Idalium: but now are they come to nothing. And from the cape Anemurium in Cilicia, it is fiftie myles distant. All that sea which lieth betweene it and Cilicia, they call Aulon Ciliciun, that is to say, The plaine of Cilicia. In this tract is the Island Elæusa: and foure others
B besides, even before the cape, named Clides, overagainst Syria. Likewise one more, named Sciria, at the other cape or point of Cilicia. Moreover, against Neampaphos, [A new Paphos] the Isle Hierocepia. Against Salamis, Salaminæ. Moreover, in the Lycian sea there be Iles, Illyris, Telendos, Attelebussa, and three Cypriæ, all barren and fruitlesse: besides Dionysia, beforetime called Caretha. Moreover, against the Promontorie of Taurus, and the Chelidoniæ, hurtfull and daungerous to saylers: and besides them as many more, together with the towne Leucola, called Pactiæ, namely, Lasia, Nymphous, Macris, Megista, in which the citie that stood, is gone. Besides these, many others there were, but of no importance. But overagainst the cape Chimera, Dolichiste, Chirogylium, Crambussa, Rhoge, Enegora, of eight myles. Against Dædaleon, two: against Cryeon, three: Strongyle moreover, against
C Sidynia, which king *Antiochus* founded: and toward the river Glaucus, Lagusa, Macris, Didymæ, Helbo, Scope, Aspis, and Telandria: howbeit, the towne in it is sunke and gone: last of all the Isle Rhodussa, next to the harborough or haven Caunus. But the fairest of all is the Isle Rhodes, a free state, and subject to none: It containeth in compasse a hundred and thirtie myles, or if wee rather give credite to *Isidorus*, a hundred and three. Three great townes there bee in it well peopled, Lindus, Camirus, and Ialysus, now called Rhodes. By the account of *Isidorus* it is from Alexandria in Ægypt, five hundred seventie and eight myles: but according to *Eratosthenes* five hundred sixtie and nine: after *Mutianus* five hundred, and from Cyprus foure hundred and sixteene. Many names hath it beene knowne by in times past, to wit, Ophyusa, Asteria, Æthræa, Trinacria, Corymbia, Poessa, Atabyria of king *Atabyris*: and finally, Macaria, and Oloessa. Many other Islands bee subject to it, and namely Carpathus (which gave name
D to the sea Carpathium) Casos, Achne in times past: and Nisyros, distant from Gnidos twelve myles and a halfe, which heretofore had beene called Porphyris. And in the same raunge, Syme, betweene Rhodes and Gnidus, and is in circuit sixe and thirtie myles and an halfe. Enriched this Island is with eight commodious havens. Over and besides these, there lie about Rhodes, Cyclopis, Teganon, Cordylusa, foure under the name of Diabete: Hymos, Chalcis, wherein standeth a good towne: Seutlusa, Narthecusa, Dimastos, and Progne. Being past Gnidos, yee shall discover Ciferussa, Therionarce, Calydne beautified with three townes, to wit, Notium, Nisyrus, Mendeterus: with Arconesus the Isle, wherein standeth the towne Ceramus. Vpon the coast of Caria, the Islands, twentie in number, called Argiæ: besides Hye-
E tussa, Lepsia, and Leros. But the goodliest and most principall of all others in that coast is Cos, which lieth from Halicarnassus fifteene myles; and in compasse about, it beareth a hundred myles: as men thinke, Meropé it was called: as *Staphylus* saith, Cos: but according to *Dionysius*, Meropis: and afterwards Nymphæa. This Ile is fortified with the mount Prion: and as some thinke, Nisyris the Island, named beforetime Porphyris, was of old united to this, and afterwards dismembered from it. Beyond this Island yee may discover Carianda, with a towne in it: and not farre from Halicarnassus, Pidosus. Moreover, in the gulfe Ceramicus, Priapontesus, Hipponesus, Pyra, Mya, Lampsemandus, Passala, Crusa, Pyrrhe, Septussa, Melano. And within a little of the maine, another called Cinedopolis, by occasion of certaine Catamites and shamefull baggages that king *Alexander* the Great left there. The coast of Ionia
F hath in the sea the Islands Æ geæ and Corseæ, besides Icaros, spoken of before. Also Lade, beforetime called Latæ: and among some other little ones of no worth, the two Camelides neere to Miletus. Moreover, Mycalum, Trogyliæ, Trepsilion, Argennon, Sardalion: and the free Island Samos, which in circuit hath foure score and seven miles, or as *Isidorus* thinketh, a hundred. *Aristotle* writeth, how at the first it was called Parthania, afterwards Dryusa, and then Anthemusa.

Ariſtocritus giveth it moreover other names, to wit, Melamphyllus, yea, and Cypariſſia: others G
tearme it Partheno-aruſa, and Stephane. Rivers in it bee Imbraſus, Cheſius, and Ibettes: fountaines of freſh water, Gigarto and Leucothea: but no other hils, ſave onely Cercetius. There lie adjoining to it other Iſlands beſides, namely, Rhypara, Nymphæa, and Achillea. Foureſcore and thirteene miles from it, you may diſcover Chios, a free State, with a towne in it, which is an Iſland as renowned every way as Samos: *Ephorus* by the auncient name calleth it Æthalia: *Metrodorus* and *Cheobulus*, Chia, of a certaine ladie nymph, whoſe name was *Chio*: others ſuppoſed it was ſo called of Chion, *i.* Snow: and ſome would have it to be Macris and Pityuſa. An hill there is in it called Pellenæus, where the good marble is digged, called Chium. The auncient Geographers have written, That it is a hundred twentie and five miles about; and *Iſidorus* addeth nine more. Situate it is betweene Samos and Lesbos, full oppoſite unto the cape E- H
rythræ. Neere unto it lie Thalluſa (which ſome write Dapnuſa,) Oenuſſa, Elaphites, Euryanaſſa, Arginuſſa with a towne. Now are all theſe about Epheſus, as alſo the Iſles of *Piſiſtratus*, ſo called: and thoſe which are named Anthinæ, to wit, Myonneſus, and Diareuſa. In both theſe the townes that were, bee loſt through water. Furthermore, the Iſland Poroſelenæ with a town in it, Cerciæ, Halone, Commone, Illetia, Lepria, and Rheſpheria, Procuſæ, Bolbulæ, Phanæ, Priapos, Syce, Melane, Ænare, Siduſa, Pela, Drymuſa, Anydros, Scopelos, Sycuſſa, Marathuſſa, Pſile, Peritheuſa, and many others of no reckoning. But among the Iſles of name, is that of Teos, lying farther in the deepe ſea, which hath a towne in it: and lieth from Chios fourſcoure and one miles, and as much from the Bay Erythræ. Neere unto Smyrna are the Iſlands Periſterides, Carteria, Alopece, Elæuſſa, Bachina, Pyſtira, Crommyonneſus, and Megale. And I
juſt before Troas, the Iſles Aſcaniæ, and three Plateæ. Then the Lamiæ, and two Plitaniæ. Moreover, the Iſlands Plate, Scopelos, Getone, Artheidon, Celæ, Laguſſæ, & Didymæ. But the moſt ſtately of all others in this ſea, is Lesbos, which lieth from Chios threeſcore and five miles. Named it was in times paſt, Hemerte, Laſia, Pelaſgia, Ægira, Æthyope and Macaria: within it were eight townes of name; whereof one, namely Pyrrha, is ſwallowed up of the ſea: and another, to wit, Arisbe, overthrowne by an earthquake. As for the Iſle Methymna was peopled from Antiſſa, which was united to it, and wherein were eight townes, and is about ſeven and thirtie
*Natolia. miles from *Aſia the leſſe. As for the townes Agamede and Hiera which were in it, gone they be now and utterly periſhed. Yet there remaine Ereſos, Pyrrha, and Mitylenæ, which hath continued for five hundred yeeres, mightie and puiſſant. *Iſidorus* ſaith, That this Iſland is in circuit K
about a hundred ſeventie and three miles: but the old Geographers, a hundred ninetie and five. In it are theſe mountains, Lepethymus, Ordymnus, Mariſtus, Creon, and Olympus. Eight myles and an halfe it is from the Continent, where it lieth neereſt. About this Iſland Lesbos, there lie neere at hand other little ones, namely, Saudalion, and the five Leucæ. Of which, Cydonea is one, wherein is a fountaine of hote water. As for Argenuſſæ, from thence to Ægæ is reckoned foure miles. There are beſides in this coaſt Phelluſa and Pedua. Now without Helleſpont, overagainſt the bay and cape Sigeum, lieth the Iſle Tenedus, called ſometimes Leucophrys, Phænice, and Lyrneſſos. From Lesbos it is ſixe and fiftie miles, and from Sigæum twelve miles and an halfe. L

Chap. xxxii.

Helleſpontus, Myſia, Phrygia, Gallatia, Bithynia, Boſphorus.

Archipelago. LEt us now leave the Iſles in the ſea Ægeum, and come to Helleſpont, now called the ſtreights of Callipolis: whereinto the maine ſea guſheth with a mightie force and violence, with his gulfes and whirlepooles, digging before him a way, untill he have limitted and devided Aſia from Europe. The promontorie firſt appearing there, wee named Trapeza. From which, tenne myles off, ſtandeth the towne Abydum, where the ſtreights are but ſeven ſtadia over. Beyond it is Percote the towne: and Lampſacum, called beforetime Pityuſa. Moreover, the Colonie Parium, which *Homer* named Adraſtia. Moreover, the towne Priapos, the river Æſepus M
and the cape Zelia. Then come yee to Propontus, for ſo is the place called where the ſea beginneth to enlarge it ſelfe. Into this channell runneth the river Granicum, which maketh the haven Artace, where once ſtood a towne. Beyond it there is an Iſland, which *Alexander* the great joined to the Continent [by two bridges, according to *Strabo*] in which ſtandeth the towne Cyzicum,

A zicum, founded by the Milesians, called heretofore Arconnesos, Dolionis, and Dindymis, neere the top whereof is the mountaine Dindymus. When yee are beyond Cizycum, you meet with these townes besides, Placia, Ariacos, Scylacum: & behind them, the hill Olympus, called sometime Mæsius. Also the cittie Olympena. The rivers Horisius and Rhyndacus, named heretofore Lycus. This river taketh his beginning in the marish or meere Artynia, neere to Miletopolis. It receiveth into it Marestos and many others, and seperateth Asia from Bithynia. This region in auncient time was called Cronia: afterward Thessalis, then Malianda and Strymonis. All this nation of these quarters, *Homer* named Halizones, for that they bee environned with the sea. Therein stood in old time a mightie great cittie named Attusa. At this day fifteene cities it hath, among which is Gordiu-come, now called Iuliopolis, and in the very coast upon the sea, Dascy-
B los. Goe further on, and yee meet with the river Gebes: and within the maine, the towne Helgas, the same that Germanicopolis, knowne also by another name Booscœte, as also Apamea, now called Myrtea of the Colophonians. Being past it, you come to the river Etheleum, the auncient limit of Troas, & where Mysia beginneth. Afterwards, you enter into the gulfe (of Bryllion) whereinto runneth the river Ascanium, upon which standeth the towne Bryllion. And beyond it you shall see the rivers Helas and Cios, together with a town of that name. A mart town this was, whereunto resorted the Phrygians that border neere unto it, for to trafficke and furnish themselves with merchandise: built verily it was by the Milesians, but the place whereon it stood was called Ascania of Phrygia. And therefore me thinkes we cannot doe better, than even here to speake of that countrey. Phrygia then spreadeth out above Troas and the nations beforena-
C med, from the cape Lectus unto the river Etheleus. It confronteth on the North side upon part of Galatia, Southward it boundeth hard to Lycaonia, Pisidia, and Mygdonia. And on the East part, it reacheth to Cappadocia. The townes of greatest name, besides those before rehearsed, be Ancyra, Andria, Celænæ, Colossæ, Carina, Cotiaion, Ceranæ, Iconium, and Midaion. Certaine authors I have, who write, That out of Europe there come to inhabite these parts, the Mysi, Bryges, and Thyni, of whom are descended and likewise named, the Mysians Phrygians, and Bithynians.

And even here I thinke it good to write also of Galatia, which lying higher than Phrygia, yet possesseth a greater part of the plaine countrey thereof, yea, and the capitall place of it sometime called Gordium. They that inhabited and held that quarter of Phrygia, were Gaules, called
D Tolistobogi, Voturi, and Ambitui: but they that occupied the country of Mæonia and Paphlagonia, were named Trocmi. This region confronteth Cappadocia on the North and East side: and the most plenteous and fruitfull tract thereof the Tectosages and Teutobodiaci kept in their possession. And thus much for the principall nations of this countrey. As for the States, Tetrarchies, and Regiments, there bee in all a hundred ninetie and five. The townes are these. Of the Tectosages, Ancyra: of the Trocmi, Tavium: of the Tolistobogians, Pessinus. Besides these, there be States of good account, Attalenses, Arasenses, Comenses, Dios-hieronitæ, Lystreni, Neapolitani, Oeandenses, Seleucenses, Sebasteni, Timmoniacenses, and Tebaseni. This Galatia extendeth even as farre as to Gabalia and Milyæ in Pamphylia, which are situate about Baris: also Cyllanticum and Oroadicum, the marches of Pisidia: likewise Obigene, part of Lyca-
E onia. Rivers there bee in it, beside those beforenamed, Sangarium and Gallus, of which river, the gelded priests of dame *Cybelæ*, mother of the gods, were named Galli. Now it resteth to speake of the townes upon the sea-coast. Yet I cannot overpasse Prusa neere to Cios, which lieth farre within the countrey of Bithynia, which *Annibal* founded at the foot of the hill Olympus. From Prusa to Nicæa, are counted five and twentie myles, in which way lieth the lake Ascanius betweene. Then come yee to Nicæa, in the very outmost part of the gulfe Ascanium, which before was called Olbia: also to another Prusa, built under the mountaine Hippius. Once there were in this coast, Pythopolis, Parthenopolis, and Choryphanta. And now there bee upon the sea side, these rivers, Æsius, Bryazon, Plataneus, Areus, Siros, Gendos, named also Chrysorrhoas. The Promontorie also, upon which stood the towne Megaricum. Then the gulfe or arme of the sea
F which was called Craspedites; for that that towne beforenamed, stood as it were, in a fold, plait, or nouke thereof. Sometimes also there was the towne Astacum, whereupon the creeke tooke the name Astacenus. Moreover, in old time the towne Libyssa, by report, was planted there: where now remaineth nothing else to be seene but the tombe of *Anniball*. But in the inmost part of the gulfe where it endeth, there standeth the goodly cittie of Bithynia, called Nico-

media. The cape Leucatas which encloseth the gulfe Astarenus, is from Nicomedia 42 miles and G
an halfe. Being past this gulfe, the sea beginneth to streighten again, and the land to meet neere
together: and these streights reach as far as to Bosphorus in Thracia. Vpon these streights stan-
deth the free citie Chalcedon, 72 miles and an halfe from Nicomedia. Beforetime it was called
Proceraſtis: then, Compusa: afterwards, The citie of the Blind; for that they who founded it,
being in a place but seven stadia from Bizantium, where was a seat in all respects more commo-
dious and fit for a citie, were so blind as that they could not choose it for the plot of Chalcedon.
But within the firme land of Bithynia, is the colonie Apamena: and there inhabite also, the A-
grippenses, Iuliopolites, and they of Bithynium. Moreover, for rivers, ye have Syrium, Lapsias,
Pharmicas, Alces, Crynis, Lylæus, Scopius, Hieras, which parteth Bithynia from Galatia. Be-
yond Chalcedon, stood Chrysopolis: then, Nicopolis, of which the gulfe still reteineth the H
name: wherein, is the haven of Amycus: the cape Naulochum: Estia, wherein is the temple of
Neptune: and the Bosphorus, a streight halfe a mile over, which now once againe parteth Asia
and Europa. From Chalcedon, it is twelve miles and an halfe. There beginneth the sea to open
wider, where it is eight miles and a quarter over: in that place where stood once the towne Phi-
lopolis. All the maritime coasts are inhabited by the Thyni, but the inland parts by the Bithy-
nians. Lo here an end of Asia, and of 282 nations, which are reckoned from the limits and gulfe
of Lycia, unto the streights of Constantinople. The space of the streights of Hellespont and
Propontis togither, untill you come to Bosphorus in Thracia, containeth in length 188 miles,
as we have before said. From Chalcedon to Sigeum, by the computation of *Isidorus*, are 372
miles and an halfe. Ilands lying in Propontis before Cyzicum, are these, Elaphonnesus, from I
whence commeth the Cyzicen marble; and the same Ile was called Neuris, and Proconnesus.
Then follow Ophyüsa, Acanthus, Phœbe, Scopelos, Porphyrione, and Halone, with a towne.
Moreover, Delphacia, and Polydora: also Artacæon, with the towne. Furthermore, over-against
Nicomedia, is Demonnesos: likewise, beyond Heraclea, just against Bithynia, is Thynnias,
which the Barbarians call Bithynia. Over and besides, Antiochia: and against the fosse or river
Rhyndacus, Besbicos, 18 miles about. Last of all, Elæa, two Rhodussæ, Erebinthus, Magale,
Chalcitis, and Pityodes.

K

THE SIXTH BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

L

Chap. 1.

Pontus Euxinus.

THe Sea called Pontus Euxinus, and named by the Greeks in old time Axenos, for the hard usage that passengers found at the hands of those savage nations upon the coasts therof, is spred also between Europe & Asia, upon a very spite and speciall envie of Nature, as it should seeme, unto the Earth, and a wilfull desire to maintaine still the Sea in his greatnesse, and to fulfill his greedie and endles appetite. For contented she was not to have environed the whole earth M
with the maine Ocean, yea and taken from it a great part thereof, with exceeding rage over-
flowing the same, and laying all emptie and naked: it sufficed not, I say, to have broken through
the mountaines, and so to rush in, and after the sea had dismembred * Caspe from Affricke, to

*Mouth of Gilbraltar.

have

A have swallowed up much more by farre than is left behind to be seene: no nor to have let Propontis gush through Hellespont, and so to encroach againe upon the earth and gaine more ground: unlesse from the streights of Bosphorus also he enlarge himselfe into another huge and vast sea, and yet is never content, untill the lake Mœotis also with his streight, meet with him as he thus spreadeth abroad and floweth at libertie, and so joyne together and part as it were, their stolne good betweene them. And verily that all this is happened maugre the earth, and that it made all resistance that it could, appeareth evidently by so many streights and narrow passages lying betweene these two elements of so contrarie nature (considering that in Hellespont, the space is not above 875 paces from land to land: and at the two Bosphori the sea is so passeable, that oxen or kine may swim at ease from the one side to the other: and hereupon they both took
B their name:) the which vicinitie serveth very well to entertaine and nourish amitie among nations, separated by nature one from another: and in this disunion as it were, appeareth yet a brotherly fellowship and unitie. For the cocks may be heard to crow, and the dogges to barke, from the one side to the other: yea and men out of these two worlds may parly one to another with audible voice, and have commerce of speech togither, if the weather be calme, and that the winds doe not carrie away the sound thereof.

Well, the measure some have taken of the sea, from Bosphorus Thracius unto the lake of Mœotis, and have accounted it to be 1438 miles and a halfe. But *Eratosthenes* reckoneth it lesse by one hundred. *Agrippa* saith, that from Chalcedon to Phasis, it is a thousand miles, and so to Bosphorus Cimmerius 360 miles. As for us, wee will set downe summarily and in generall, the
C distances of places, according to the moderne knowledge of our nation in these daies, for as much as our armies have warred in the verie streight and mouth of this Cimmerian streight.

Being passed then from the streight of Bosphorus Thracius, we meet with the river Rhebas, which some have called Rhœsus: and beyond it, Psillis another river: then, come we to the port of Calpas, and Sangarius one of the principall rivers of Asia: it ariseth in Phrygia: it receiveth other huge rivers into it, and among the rest Tembrogius and Gallus. The same Sangarius, was called also Coralius. After this river, begin the gulfes Mariandini, upon which is to be seene the towne Heraclea, situate upon the river Lycus. It is from the mouth of Pontus 200 miles. Beyond it is the port Acone, cursed for the venemous hearb and poisonous Aconitum, which taketh name thereof. Also the hole or cave Acherusia. Rivers also there be, Pedopiles, Callichorum,
D and Sonantes. One towne, Tium, eight and thirtie miles from Heraclea: and last of all, the river Bilis.

Chap. II.

The nation of the Paphlagonians, and Cappadocians.

BEyond this river Bilis, is the countrey Paphlagonia, which some have named Pylæmerina, and it is enclosed with Galatia behind it. The first towne yee meet in it, is Mastya, built by the Milesians: and next to it, is Cromna. In this quarter the Heneti inhabite, as *Cornelius Nepos* saith. Moreover, from whence the Venetians in Italie, who beare their name, are descen-
E ded, as he would have us beleeve. Neere to the said towne Cromna, is another called Sesamum in times past, and now Amastris. Also the mountaine Cytorus, 64 miles from Tium. When you are gone past this mountaine, you shall come to Cimolus and Stephane, two townes, and likewise to the river Parthenius: and so forward to the cape or promontorie Corambis, which reacheth forth a mighrie way into the sea: and it is from the mouth of the sea Pontus 315 miles, or as others rather thinke, 350. As farre also it is from the streight Cimmerius, or as some would rather have it, 312 miles and an halfe. A towne there was also in times past of that name: and another likewise beyond it called Arminum: but now, there is to be seene the colonie Sinope, 164 miles from Citorum. Being past it, you fall upon the river Varetum, the people of Cappadocia, the townes Gazima, and Gazelum, and the river Halyto, which issuing out of the foot of
F the hill Taurus, passeth through Cataonia and Cappadocia. Then meet you with these townes following, Gangre, Carissa, and the free citie Amisum, which is from Sinope 130 miles. As you travell farther, you shall see a gulfe carrying the name of the said towne, where the sea runneth so farre within the land, that it seemeth to make Asia well-neere an Iland: for from thence to the gulfe Issicus in Cilicia, is not above 200 miles through the continent. In all which tract, there be

no

no more than three nations which justly and by good right, may be called Greekes, to wit, the Dorians, Ionians, and Æolians: for all the rest are reputed barbarous. Vnto Amisum, there joyned the towne Eupatoria, founded by K. *Mithridates*: and after that he was vanquished, both together tooke the name of Pompeiopolis. G

Chap. iii.

Cappadocia.

IN Cappadocia, there is a cittie well within the land, called Archelais, situate upon the river Halys: which *Claudius Cæsar* the Emperor erected as a colonie, and peopled it with Romane souldiers. There is besides a towne which the river Sarus runneth under: also Neo-cæsarea, which Lycus passeth by: and Amasia, with the river Iris runing under it, within the country Gazacena. Moreover, in the quarter called Colopena, there stand Sebastia and Sebastopolis, little townes indeed, howbeit comparable with those aboveseid. In the other part of Cappadocia, there is the cittie Melita, built by queene *Semiramis*, not farre from Euphrates: also, Dio-Cæsarea, Tyana, Castabala, Magnopolis, Zela: and under the mountaine Argæus, Mazaca, which now is named Cæsarea. That part of Cappadocia which lieth before Armenia the greater, is called Melitene: that which bordereth upon Comagene, Cataonia: upon Phrygia, Garsauritis: upon Sargaurasana, Cammaneum: and finally upon Galatia, Morimene. And there the river Cappadox seperateth the one from the other. Of this river the Cappadocians took name, whereas beforetime they were called Leucosyri. As for the lesse Armenia, the river Lycus devideth it from Neo-Cæsarea beforesaid. Within the countrey there runneth also the great river Ceraunus. But on the coast side, when you are past the cittie Amysum, you meet with the towne Lycastum, and the river Chadisia: and once past them, you enter into the countrey Themiscyra. In this quarter also you may see the river Iris, bringing downe with it another river Lycus that runneth into it. And in the midland parts there is the citie Ziela, ennobled for the overthrow of *Triarius*, whom *C. Cæsar* defeated with his whole armie. But in the coast againe you shall encounter the river Thermodon, which issueth from before a castle named Phanarœa, and passeth beside the foot of the mountaine Amazonius. In which place there stood sometime a towne of that name, and other five, namely, Phamizonium, Themiscyra, Sotira, Amasia, Comana, at this present called Manteium. H I K

Chap. iiii.

The people of the region Themiscyrene.

MOreover, in Pontus ye have the nations of the Genetæ and the Chalybes, together with a towne of Cotyi. People besides called Tibareni, and Mossyni, who brand and marke their bodie with hote fearing yrons. Also the nation of the Macrocephali, with the town Cerasus, and the port Cordulæ. Beyond which you come to a people named Bechires, and Buzeri, and to the river Melas. And so forward to the quarter of the Macrones, Sideni, and so to the river Sydenum, upon which is situate the towne Polemonium, distant from Amisum 220 myles: where yee shall find the rivers Iasonius and Melanthius: and a towne 80 miles from Amisum, called Pharnacea: the castle and river of Tripolis. Item, Philocalia and Liviopolis without a river: and lastly the imperiall and free cittie Trapezus, environned with an high mountaine, 100 miles from Pharnacea. And being past Trapezus, you enter into the countrey of the Armenochalybes, and Armenia the greater: which are 30 myles asunder. But upon the coast you shall see the river Pyxites that runneth even before Trapezus: and beyond it the countrey of the Sanni Heniochi. Moreover, the river Absarus, in the mouth whereof there is a castle likewise so named, from Trapezus 150 miles. Behind the mountains of that quarter, you meet with the region Iberia: but in the coast thereof the Heniochi, Ampreutæ and Lazi. The rivers Campseonysis, Nogrus, Bathys. When yee are once past them, you come into the countrey of the Colchians, where standeth the towne Matium, with the river Heracleum passing under it, and a Promontorie of that name, and last of all, the most renowned river of all Pontus, called Phasis. This river riseth from out of the Moschian mountaines, and for 38 miles and an halfe, is navigable, and beareth any great vessels whatsoever. And then for a great way it carrieth smaller bottomes, and hath over it L M

A 120 bridges. Beautified it was ſometimes with many faire townes upon the bankes thereof on both ſides, and the principall of them all, were Tyritaum, Cygnus, and the cittie Phaſis ſituate in the very mouth thereof, as it falleth into the ſea. But the goodlieſt cittie planted upon this river, and moſt famous of all the reſt was Æa, fifteene myles diſtant from the ſea: where Hippos and Cyanos, two mightie great rivers, comming from divers parts, enter both into the river Phaſis. But now there is no count made of any but of Surium onely, which taketh name of the river Surium which runneth to it. And thus farre wee ſaid that Phaſis was capable of great ſhips. Among other rivers which it receiveth, for number and greatneſſe admirable, is the river Glaucus. In the foſſe and mouth of this river Phaſis, where hee is diſcharged into the ſea, there bee ſome little Iſlands of no reckoning. And there, from Bſarus it is 75 miles. Being paſt Phaſis, you
B meet with another river called Chârien: upon which bordereth the nation of the Salæ, named in old time Phthirophagi and Suani, where you ſhall meet with the river Cobus, which iſſueth out of Caucaſus, and runneth through the countrey of the Suani aboveſaid. Then you come to another river Rhoas, and ſo forward to the region Ecrectice: to the rivers Sigania, Terſos, Atelpos, Chryſorrhoas, and the people Abſilæ: the caſtle Sebaſtopolis, a hundred miles from Phaſis, the nation of the Sanigores, the towne Cygnus, the river and towne both called Pityus. And laſt of all yee arrive upon the countrey of the Heniochæ, where be nations entituled with many and ſundrie names.

Chap. V.

C *The region of Colchis, the Achæi, and other nations in that tract.*

NExt followeth the region of Colchis, which is likewiſe in Pontus: wherein the mountaine Caucaſus wind & turn toward the Rhiphæan hils, as hath ben ſaid before, and that mountaine of the one ſide bendeth downe toward Euxinus, Pontus, and Mæotis; and of the other, enclineth to the Caſpian and Hircane ſeas. When ye are deſcended to the maritime coaſts, yee ſhall find many barbarous and ſavage nations there inhabiting, to wit, the Melanchlæni, and the Choruxi, where ſometimes ſtood Dioſcurias a cittie of the Cholchians, neere unto the river Anthemus, which now lieth waſt and diſpeopled, notwithſtanding it was ſo renowmed in times paſt, that by the report of *Timoſthenes*, there repaired thither and inhabited therein
D 300 nations of diverſe languages. And even afterwards our Romanes were forced to provide themſelves of 130 interpreters, when they would negotiate and traffick with the people in and about Dioſcurias. Some there be that thinke how it was firſt founded by *Amphitus* and *Telchius*, who had the charge of the chariots of *Caſtor* and *Pollux*: for certain it is, that the fierce and wild nation of the Heniochi, are from them deſcended. Being paſſed Dioſcurias, you come up the towne Heraclium, which from Sebaſtopolis is 80 miles diſtant: and ſo forward to the Achæi, Mardi, and Cercetæ: and after them to the Serri, and Cephalotomi. Far within that tract ſtood the moſt rich and wealthie towne Pitius, which by the Heniochians was ranſacked and ſpoiled. On the backe part thereof inhabite the Epagerites [a nation of the Sarmatians] even upon the mountaine Caucaſus: and on the other ſide of that hill, the Sauromatæ (the countrey is at this
E day called Tartaria the great.) Hither retired and fled king *Mithridates* in the time of *Claudius Cæſar* the Emperor: who made report, that the Thali dwell thereby, and confine Eaſtward upon the very opening of the Caſpian ſea: which by his report remaineth drie, whenſoever the ſea doth ebbe. But now to returne to the coaſt neere unto the Cercetæ, you meet with the river Icaruſa, with a towne and river called Hierum, 136 miles from Heracleum. Then come yee to the cape Cronea, in the very ridge and high pitch whereof the Toretæ inhabite. But beneath it you may ſee the cittie Sindica, 67 miles ſituate from Hierum: and laſt of all, you arrive upon the river Sceaceriges.

Chap. VI.

F *Mæotis, and the ſtreights thereof called Boſphorus Cimmerius.*

FRom the ſaid river to the very entrance of the Cimmerian Boſphorus are counted 88 miles and an halfe. But the length of the very demie Iſland, which extendeth and ſtretcheth out between Pontus and Mæotis, is not above 87 miles and a halfe, and the breadth in no place

leſſe

lesse than two acres of land. This the paisants of that countrey doe call Eione. The very coasts of this streight Bosphorus, both of Asia side and Europa, boweth and windeth like a curb to Mœotis. As touching the townes here planted, in the very first entrie thereof standeth Hermonassa, and then Cepi, founded by the Milesians. Being past Cepi, you come soone after to Stratilia, Phanagoria, and Apaturos, in manner unpeopled and void: and last of all, in the verie utmost point of the mouth where it falleth into the sea, you arrive at the towne Cimmerius, named beforetime Cerberian. G

Chap. vii.

Nations about Mœotis.

Being passed Cimmerium, you come to the very broad lake Mœotis, whereof we spake before in the Geographie of Europe. Vpon the coast whereof, beyond Cimmerium on the side of Asia, inhabite the Mœotici, Vati, Serbi, Archi, Zingi, and Psesij. After this, you come to the great river Tanais, which runneth into Mœotis with two armes or branches: and on the sides of it dwell the Sarmatians, an offspring descended in old time (as men say) from the Medians: but so multiplyed now, that they themselves are divided and dispearsed into many nations. And first of all are the Sauromatæ, surnamed Gynæcocratumeni, *i.* (as one would say) subject to women: from whence the Amazons are provided and furnished of men to serve their turne in stead of husbands. Next to them, are the Euazæ, Cottæ, Cicimeni, Messeniani, Costobocci, Choatræ, Zigæ, Dandari, Thussageræ, and Turcæ, even as farre as the wildernesses, forrests, chases, and rough valleys. But beyond them are the Arnuphæi, who confine upon the mountaine Rhiphæi. As for the river Tanais, the Scithians call it Silys: and Mœotis, they name Temerinda, that is to say, the mother of the sea, or rather, the seas end. In auncient time there stood a great town upon the very mouth of Tanais, where it falleth into the sea. As for the neighbour borders of this sea, inhabited they were sometime by the Lares: afterwards, by the Clazomenij and Mœones: and in processe of time, by the Panticapenses. Some Authours write, that about Mœotis toward the higher mountaines Ceraunij, these nations following doe inhabite, to wit, first upon the very coast and sea side, the Napææ: and above them, the Essedones, joyning upon the Colchi, and the high mountaine [Corax.] After them, the Carmaces, the Oranes, Anticæ, Mazacæ, Ascantici, Acapeates, Agagammatæ, Phycari, Rhimosoli, and Ascomarci. Moreover, upon the hill Caucasus, the Icatales, Imaduches, Ranes, Anclaks, Tydians, Charastasci, and Asuciandes. Moreover, along the river Lageus, issuing out of the mountains Cathei, and into which Opharus runneth, these nations ensuing doe dwell, to wit, the Caucadians, and the Opharites: beyond whome, runneth the rivers Menotharus, and Imitues, out of the mountaines Cissij, which passeth through the Agedi, Carnapes, Gardei, Accisi, Gabri, and Gregari: and about the source or spring of this river Imitues, the people Initui and Apartheni. Others say, that the Suites, Auchetes, Satarnei, and Asampates, invaded and conquered these parts; and that the Tanaites and Nepheonites, were by them put to the edge of the sword, and not one person of them spared. Some write, that the river Opharius runneth through the Canteei, and the Sapæi: and that the river Tanais traversed sometime through the Phatareans, Herticei, Spondolici, Synthictæ, Amassi, Issi, Catareti, Tagori, Catoni, Neripi, Agandei, Mandarei, Saturchei, and Spalei. H I K L

Chap. viii.

Cappadocia.

Hitherto have we treated and gone through the nations and the inhabitants of the coasts upon the Mediteranean sea. Now are wee to speake of the people inhabiting the verie midland parts of the maine within: wherein I protest, and denie not, but that I will deliver many things otherwise than the auncient Geographers have set downe: forasmuch as I have made diligent search into the state of those regions, as well by enquirie of *Domitius Corbulo* (who lately went with an armie through those quarters) as of divers kings and princes, who made repaire to Rome with suites and supplications, but especially of those kings sonnes that were left as hostages in Rome. And first to begin with the nation of the Cappadocians. This is a country M

that

A that of all others which bound upon Pontus, reacheth fartheſt within the firme land: for on the left hand it paſſeth by both Armenias, the greater and the leſſe, and Comagene: and on the right, all thoſe nations in Aſia before-named: confining many others: and ſtill prevailing with great might, growing on and climing Eaſtward up to the mountaine Taurus, it paſſeth beyond Lycaonia, Piſidia, and Cilicia: and with that quarter which is called Cataonia, pierceth above the tract of Antiochia, and reacheth as far as to the region Cyrrheſtica, which lyeth well within that countrey. And therefore the length of Aſia there, may containe 1250 miles, and the breadth 640.

Chap. IX.

B

Armenia the greater and the leſſe.

THe greater Armenia, beginning at the mountaines Pariedri, is divided from Cappadocia by the river Euprates, as hath been ſaid before: and where the river Euphrates beginneth to turne his courſe from Meſopotamia, by the river Tigris as renowmed as the other. Both theſe rivers is it furniſhed withall, which is the cauſe that it taketh the name of Meſopotamia, as being ſituate betweene them both. The maine land which lyeth betweene, is poſſeſſed by the mountaines of Arabia called Orei: howbeit, it extendeth untill it confine upon Adiabene. Being paſt it once, it is hemmed in with mountaines that encounter it overthwart, which cauſe it to enlarge it ſelfe into a breadth on the left hand, as far as to the river Cyrus: and then it turneth
C ever croſſe, untill it meet with the river Araxes: but it carrieth his length into the leſſe Armenia, confining ſtill upon the river Abſarus, which falleth into the Ponticke ſea: and the mountaines Pariedri (from which the ſaid river iſſueth) which divide it from the leſſe Armenia. As for the river Cyrus, it ſpringeth in the mountaines Heniochij, which ſome have called Coraxici. But Araxes iſſueth out of the ſame mountaine from whence Euphrates commeth, and there is not above ſixe miles ſpace betweene them both. This river Araxes is augmented with the river Muſis; and then himſelfe looſeth alſo his name, and as moſt have thought, is carried by the river Cyrus into the Caſpian ſea. As for the townes of name in the leſſe Armenia, they be theſe, Cæſarea, Aſia, and Nicopolis. In the greater, yee have Arſamole, faſt upon the river Euphrates: likewiſe Carcathiocerta, ſituate upon Tigris. In the higher countrey, is the citie Tigranocerta,
D built in the plaine beneath, neere unto Araxes, Artaxata. *Anſidius* ſaith, that both the Armeniæ containe in all 500 miles. *Claudius Cæſar* reporteth, that in length from Daſcuſa, to the confines of the Caſpian ſea, it taketh 1300 miles, and in breadth halfe ſo much, to wit, from Tigranocerta to Iberia. This is well knowne, that divided it is into certaine regiments, which they call Strategians; and yet ſome of them in old time, were as large ech of them as realmes and kingdomes: and to the number they were of 120, but ſuch barbarous names they had, that they cannot well be ſet downe in writing. Encloſed it is Eaſtward with the mountaines, but neither the hills Caraunij, nor yet the region Adiabene, doe preſently and immediatly confine thereupon: for countrey of the Sopheni lyeth betweene: then you come to the mountaines aforeſaid; and being paſt them, you enter into the countrey of the Adiabenes. But on that coaſt where the plaines
E lye and the flat valleys, the next neighbours to Armenia, be the Menobardi and Moſcheni. As for Adiabene, environed it is partly with the river Tigris, and partly compaſſed with unacceſſible ſteepe mountaines. On the left hand, it confineth upon the Medians, and hath a proſpect to the Caſpian ſea, the which commeth out of the Ocean (as we ſhall ſhew in meet and covenient place) and is encloſed wholly within the mountaines of Caucaſus. As for the nations there inhabiting along the marches and confines of Armenia, now will we ſpeake of them.

Chap. X.

Albania, and Iberia.

F ALl the plaine countrey betweene Armenia and the river Cyrus, the Albanois of Aſia do inhabite. Beeing paſt it, you enter anon into the Iberians region, who are ſeparated from the Albanois afore-ſaid by the river Alazon, which runneth downe from the Caucaſian hills into Cyrus. The towns of importance, in Albania, is Cabalaca; in Iberia, Harmaſtis, neere to the river Neoris: beyond which, is the region Thaſie, and Triare, as farre as to the mountaines

taines Partedori. And when you are past them, you enter into the deserts of Cholchis: and on G
the side of them which lyeth toward the Ceraunij, the Armenochalybes do inhabite: and so forward you come into the tract and marches of the Moschi, which extend to the river Iberus, that runneth into Cyrus. Beneath them, inhabite the Sacassani, and beyond them the Macroniens, who reach even to the river Absarus. Thus you see how the plaines and the hanging of the hills in these parts, are inhabited. Againe, from the marches and frontiers of Albania, all the forefront of the hills is taken up and possessed by the savage people of the Sylvi; and beneath them, of the Lubienes, and so forward by the Didurians, and Sodij.

Chap. xi.

The gates and passages of the mountaine Caucasus. H

WHen ye are beyond the Sodij, you come to the streights of the hill Caucasus, which many have erroniously called Caspiæ Portæ. And certes, Nature hath perfourmed a mightie peece of worke, in cleaving asunder at one instant those mountaines, where the gates were barred up as it were with iron portculleises, whiles under the mids thereof, the river Dyriodorus runneth: and on this side of it, standeth a strong fort and castle called Cumania, situate upon a rock, able to impeach an armie never so puissant and innumerable that would passe thereby; in such sort, as in this place by meanes of these bar-gates, one part of the world is excluded from the other: and namely most of all they seeme to be set opposite as a rampart against Harmastis a towne of Iberia. But being passed these said gates, you come to the mountaines Gordyei, where the Valli and Suarni, barbarous and savage nations, are imployed onely in the mines of gold. Beyond them as farre as to the Ponticke sea, you enter into the countrey of the Heniochi, whereof be many sorts: and soone after, to the Achei. And thus much as touching this tract of the sea Ponticke, and of the most renowmed gulfes of all others. Some have set downe in writing, that betweene Pontus and the Caspian sea, it is not above 375 miles. *Cornelius Nepos* saith it is but 150. See into what great streights between both seas Asia is driven again, and as it were thronged. *Claudius Cæsar* hath reported, that from Cimmerius Bosphorus unto the Caspian sea, it is 150 miles, and that *Seleucus Nicator* purposed if he had lived, to cut the land through from the one side to the other: but in this purpose of his, himselfe was cut short and slaine by *Ptolomæus Ceraunus*. To conclude, it is in manner held for certein, that from those K
gates of Caucasus unto the Ponticke sea, it is 200 miles and no lesse. I

Chap. xii.

The Islands in the Ponticke sea.

In the Ponticke sea, lye the Islands Planctæ, otherwise Cyaneæ or Symplegades. Then Apollonia, named also Thynnias, for distinction sake from that other so named in Europe: it is from the continent one mile, and is in circuit three. Iust over-against Pharnacea, is the Isle Chalceritis, which the Greekes called Aria, consecrated as it were to *Mars*; wherein they say the foules that are, used to fight and flutter with their wings against all other birds that come L
thither.

Chap. xiii.

The regions and people confining upon the Scythian Ocean.

HAving thus sufficiently discoursed of all the countries within the firme land of Asia, let us now determine to passe over the Rhiphæan hilles, and discover the coasts of the Ocean which lye on the right hand of those hills. Wherein we have to consider, that Asia is dashed and beaten upon by this maine sea on three parts: to wit, on the North side, and there it is called Scythicus: on the East, where they call it Eous: and last from the South, and there they M
name it Indicus. And according to the sundrie gulfes and creekes that it maketh, and the inhabitants by whom it passeth, many names it taketh. Howbeit, a great part of Asia toward the North, lyeth desert, and hath in it much wilderneſſe inhabitable, by reason of the extreme cold of that frozen climate, so subject to the Pole Arcticke. But being once past the utmost quarter of the

A the North point, and came to the Northeast where the sunne ariseth at midsommer, then you come to the Scythians. Beyond whome, and the very point of the North pole and the wind from thence, some have placed the Hyperborei; of whome we have spoken at large in the treatise of Europe. On this side the Hyperborei, the first cape or promontorie that you meet with all in the countrey Celtica, is named Lytarmis: and then you come into the river Carambucis, where, by the forcible influence of the starres, the high mountaines Rhiphæa, as being wearied, begin to settle and abase themselves lower. At the fall and descent of which mountaines, I have heard say, that certaine people named Arnupheæ inhabited: a nation not much unlike in their manner of life to the Hyperboreans. They have their habitations in forrests: their feeding is upon berries of trees: shorne they be all and shaven, for both women and men count it a shame to
B have haire on their heads: otherwise they are civile enough in their conversation and behavior: and therefore, by report, they are held for a sacred people and inviolable, in so much as those cruell nations and inhumane that border upon them, will offer them no abuse; neither do they respect them onely, but also in regard and honour of them, they forbeare those also that flie unto them as to a place of franchise and priviledge. Goe beyond them once, you come among the *Scythians indeed, the Cimmerij, Cicianthi, Georgi, and the nation of the Amazons, and these confront the Caspian or Hircan sea: for it breaketh forth of the deep Scithian Ocean, toward the back parts of Asia, and taketh divers names of the inhabitants coasting upon it, but especially above all other of the Caspians and Hircaneans. *Clitarchus* is of this opinion, that this sea is full as great and large as Pontus Euxinus. And *Eratosthenes* setteth down the very measure and pour-
C prise thereof: namely, from East to South along the coast of Caduscia and Albania, 5400 stadia: from thence by the Aratiaticks, Amarbi, and Hircanij, to the mouth of the river Zoüm, 4800 stadia: from it to the mouth of Iaxartes where it falleth into the sea, 2400 stadia: which being put together amount in all to 1575 miles. *Artemidorus* counteth lesse by 25 miles. *Agrippa* in bounding out and limiting the circuit of the Caspian sea, and the regions coasting upon it, together with them Armenia both the greater and the lesse, namely Eastward with the Ocean of the Seres, Westward with the mountains of Caucasus, on the South side with the hill Taurus, and finally on the North with the Scithian Ocean, hath written, That the whole precinct and compasse of these parts may contain in length [so far as is known and discovered of those countries] 590 miles, and 290 in breadth. Yet for all this, there want not others who say, That the whole cir-
D cuit of that sea, and begin at the very mouth and firth thereof, ariseth to 2500 miles. As for this mouth aforesaid where it breaketh into the sea, it is very narrow, but exceeding long: howbeit when it beginneth once to enlarge it selfe and grow wide, it turneth and fetcheth a compasse with horned points like to a quarter moon, and after the manner of a Scithian bow, as *M. Varro* saith, it windeth along from his mouth toward the lake Mœotis. The first gulfe that it maketh, is called Scythicus; for the Scithians inhabit on both sides, and by the meanes of the narrow streight between, have commerce and trafficke one with another: for of the one side are the Nomades and Sauromatæ, comprising under them many other nations of sundry names: and on the other, the Abzoæ, who have no fewer states under them. At the very entry of this sea on the right hand, the Vdines, a people of the Scithians, dwell upon the very point of this mouth: and then along the
E coast, the Albanois, a nation descended (as men say) from *Iason*; where the sea lying before them is called Albanum. This nation is spread also upon the mountaines of Caucasus, and so along downe the hils as far as to the river Cyrus, which confineth the marches betweene Armenia and Iberia, as hath been said. Above the maritime coasts of Albania and the Vdines country, the Sarmatians, called Vtidorsi, and Aroteres, are planted: and behind them, the Amazons, whome we have alreadie shewed; who also are women Sauromatians. The rivers of Albanie which fall into the sea, are Cassios and Albanos: and then Cambises, which hath his head in the Caucasian mountains: and soon after Cyrus, which ariseth out of the hils Corax, as before is said. Moreover *Agrippa* writeth, that this whole coast of Albanie (fortified with those high and inaccessible mountains of Caucasus) containeth 425 miles. Now when you are past the river Cyrus, the Cas-
F pian sea beginneth to take that name, for that the Caspians do inhabite the coast thereof. And here the error of many is to be laid open and corrected, even of those also who were in the last voyage with *Corbulo* in Armenia with the Romane armie: for they tooke it, that those gates of Caucasus whereof wee spake before, were the Caspian gates, and so called them: and the verie mappes and descriptions which are painted and sent from thence, beare that name and title.

* At this day; the Moschouites, white & black Russians, Georgians, Amazonians, & the lesse Tartarie.

Likewise the menacing commaundements, and threatning commissions sent out by *Nero* the Emperour for to gaine and conquer those gates, which through Iberia lead into Sarmatia, made mention of the gates Caspiæ there, which had in a manner no passage at all to the Caspian sea, by reason that the mountaine Caucasus empeached it. Howbeit in very truth, there be other gates so called, which joyn upon the Caspian nations, which we had never known from the other, but by relation of those that accompanied *Alexander* the Great in his voyage and expedition to those parts. For the realme and kingdome of the Persians, which at this day wee take that the Parthians hold, lyeth aloft betweene the Persian and Hircane seas upon the mountaines of Caucasus, in the very hanging and descent thereof, on both sides confining upon Armenia the greater: and on that part which lyeth to Comagene, confronteth and joyneth (as we have said) upon Sepheniæ: and upon it againe bordereth Adiabene, where the realme of the Assyrians doth begin: whereof Arbelitis, which boundeth next upon Syria, taketh up a good part: which is the country wherein *Alexander* the Great discomfited and vanquished *Darius*. All this tract, the Macedonians who entred with *Alexander*, surnamed Mygdonia, for the resemblance of that in Greece from which they came. Townes of name there be in it, Alexandria, and Antiochia, which they call Nisibis: and from Artaxata it is 750 miles. There was also another cittie called Ninus or Ninive, seated upon the river Tygris, which regarded the West, which in times past was highly renowmed. But on the other side, where it lieth toward the Caspian sea, lyeth the region Atropatene, separated by the river Araxes, from Otene in Armenia: wherin is the citie Gazæ, 450 miles from Artaxata: and as many from Ecbatana in Media, whereon some part the Atropatenes doe hold.

Chap. xiiii.

Media, and the gates Caspiæ.

As for Ecbatana the head citie of Media, *Seleucus* the king founded it: and it is from Seleucia the great 750 miles: and from the Caspian gates 20. The other great townes of importance in Media, be Phausia, Agamzua, and Apamia, named also Rhaphane. And as for the streights there, called the Caspian gates, the same reason is there of that name, as of the other by Caucasus; by reason that the mountaine is cloven and broken through, and hath so narrow a lane, that hardly a waine or cart is able to passe by it, and that for the length of 8 miles: all done by the picke-axe and mans hand. The rockes and cliffes that hang over on the one side and the other, be like as if they were scortched and halfe burnt: so dry and thirstie is all that tract, and without fresh water for 38 miles space: for all the liquor and moisture issuing out of those craggie rockes, runneth through it, which letteth the passage and causeth folke to avoid that way. Besides, such a number of serpents doe there haunt, that no man dare passe that way but in winter onely.

Chap. xv.

Nations about the Hircane sea.

Vnto Adiabene, joyneth the countrey of the Carduchi, so called in times past, and now Corduени, by which the river Tigris runneth: and upon them the Pratitæ doe confine, called also Paredoni, who keepe the hold of the Caspian gates aforesaid. On the other side of whome, you shall meet with the deserts of Parthia, and the mountaine Cithenus: but being passed that once, you come streight into the most pleasant and beautifull tract of the same Parthia, called Choara: and there, stand two citties of the Parthians, built sometimes as forts opposite against the Medians: namely, Calliope and Issatis, situate in times past upon another rocke. As for the capitall cittie of all Parthia, Hecatompylos, it is from the Caspian gates abovesaid 133 miles. Thus you see how the kingdome of the Parthians also is limited and separated by these mountaines and streights. When a man is once gotten forth of these gates, presently he entreth upon the Caspians country, which reacheth as farre as to the sea side, and gave the name as well to it as to the gates afore-named. Howbeit all the region upon the left hand is ful of mountains: from whence backward to the river Cyrus, are by report 220 miles, but from that river if you would goe higher up to those gates, you shall find it 700 miles. And in very truth from this place began *Alexander* to make the account and reckoning of his journies, in that voyage of his to India,

A India, ſaying, that from thoſe gates to the entrance of India, it was 15680 ſtadia: from thence to the citie Bacha, which they call Zariaſpa 3700, and ſo to the river Iaxartes 5 miles.

Chap. xvi.

Other nations alſo.

FRom the Caſpians countrey Eaſtward, lieth the region called Zapanortene, & in it the land Daricum, the moſt fertile tract of all thoſe parts. Then come you to the Tapyrians, Anariaci, Stauri and Hircani, at whoſe coaſts the ſame ſea beginneth to take the name Hircanum, even from the river Syderis. About it are other rivers, to wit, Mazeras and Stratos, all iſſu-
B ing out of Caucaſus. Out of the realme of Hircania, you enter into the countrey Margiana, ſo commendable for the warme Sunneſhine weather there, and the onely place in all that quarter which yeeldeth vines. Environned it is on every ſide with goodly pleaſant hils to the eie, for the compaſſe of 1500 ſtadia. Fortified it is beſides, and affourdeth hard acceſſe unto it by reaſon of the ſandie and barren deſarts for the ſpace of 120 myles. And ſituate it is even againſt the tract of Parthia, wherein *Alexander* the great ſometime had built Alexandria, which being raſed and deſtroied by the Barbarians, *Antiochus* the ſon of *Seleucus* reedified in the ſame place upon the river Margus, which runneth through it, together with another river Zocale, and it was called *Syriana. Howbeit, he deſired rather that it ſhould be named Antiochia. This citie containeth in circuit 70 ſtadia: and into it, *Orodes* after that hee had defeated *Craſſus* and his hoaſt, brought
C all the Romanes whom he had taken priſoners. Being paſt the high country Margiana, you come to the region of the Mardi, a fierce & ſavage people, ſubject unto none, they inhabit the mountaine Caucaſus, and reach as farre as to the Bactrians. Beyond that tract are theſe nations, the Ochanes, Chomares, Berdrigei, Hermatotrophi, Bomarci, Commani, Marucæi, Mandrueni and Iatij. The rivers alſo, Mandrus and Gridinus. Beyond inhabite the Choraſmij, Gandari, Attaſini, Paricani, Sarangæ, Parraſini, Maratiani, Naſotiani, Aorſi, Gelæ, whom the Greekes called Caduſij, and the Matiani. Moreover, in it ſtood the great towne Heraclea, built by *Alexander* the great, which afterwards was ſubverted and overthrowne: but when it was repaired againe by *Antiochus*, he named it Achais. Beneath in the countrey, the Derbines do inhabite, through whoſe marches in the very middeſt runneth the river Oxus, which hath his beginning out of a lake cal-
D led Oxus. Beyond them are the Syrmatæ, Oxij, Tagæ, Heniochi, Bateni, Saraparæ, and Bactrians, with their towne Zariaſpe, called afterwards Bactrum, of the river Bactra. This nation inhabiteth the backe parts of the hill Paropamiſus, overagainſt the ſource and ſpring of the river Indus, and is environned with the river Ochus. Beyond the Bactrianes are the Sogdianes, and Panda the principall citti of that countrey. In the very utmoſt marches of their territorie ſtandeth the towne Alexandria built by *Alexander* the great, wherein are to bee ſeene the Altars and Columnes, erected by *Hercules*, prince *Bacchus*, *Cyrus*, *Semiramis*, and *Alexander*: ſuppoſed and taken to be the very end of all their voiages in that part of the world, reſting within the river Iaxartes, which the Scythians call Silys. For *Alexander* and his ſouldiours thought it had beene Tanais. Howbeit, captaine *Demonax*, who ſerved under the kings *Seleucus* and *Antiochus*, paſſed
E over that river with an armie, and at the end of his voiage ſet up altars unto *Apollo Didymæus*. And this *Demonax* wee follow, eſpecially in this deſcription and Geographie of ours.

*Or rather Seleucia.

Chap. xvii.

The Scythian nation.

BEyond the realme Sogdiana, inhabit the nations of the Scythians. The Perſians were wont to call them in generall Sacas, of a people adjoining unto them, ſo named. In old time they were known by the name of Arameans. And on the other ſide, the Scythians for their part uſed to tearme the Perſians, Chorſari: and the hill Caucaſus, they called Graucaſus, that is to ſay,
F white with ſnow. The principall nations of Scythia, bee the Saræ, Maſſagetæ, Dahæ, Eſſedones, Ariacæ, Rhymnici, Peſici, Amordi, Hiſti, Edones, Camæ, Camacæ, Euchatæ, Cotieri, Antariani, Pialæ, Arimaſpi beforetime called Cacidiri, Aſæi and Oetei. As for the Napæans & Apellæans who ſometime dwelt there, they be utterly extinct and gone. The rivers there of name bee Mandagræus and Caſpaſius. And ſurely there is not a region wherein Geographers doe varie

and disagree more than in this: and as I take it, this commeth of the infinite number of those nations, wandering to and fro, and abiding never in one place. *Alexander* the great and *M. Varro* make report, that the water of the Scythian sea is fresh in taste, and potable. And in truth *Pompey* the great had such water brought unto him from thence to drinke, when he waged warre thereby against *Mithridates*: by reason no doubt of the great rivers that fall into it, which overcome the saltnesse of the water. *Varro* saith moreover, That during this expedition and journie of *Pompeius*, it was for certaine knowne, that it is but seven daies journey from out of India to the Bactrians countrey, even as farre as to the river Icarus which runneth into Oxus: and that the merchandise of India, transported by the Caspian sea, and so to the river Cyrus, may bee brought in five daies by land as farre as to Phasis in Pontus. Many Islands there lie all over that sea: but one above the rest, and most renowned, is Tazata: for thither all the shipping from out of the Caspian sea and the Scythian Ocean, doe bend their course and there arrive: for that all the sea coasts doe affront the Levant, and turne into the East. The frontiers of Scythia from the first cape thereof, is unhabitable by reason of the snow that lieth continually: neither are the next regions thereto frequented and tilled, for the barbarous cruelties of those nations that border upon it: such as the Anthropophagi, who live of mans flesh, and haunt those parts. Hereupon it commeth, that you shall find nothing there but huge desart forrests, with a number of wild beasts, lying in wait for men as savage as themselves. When you are past this region, you enter againe among the Scythians, where you shall find likewise a wildernesse full of wild beasts, even as far as to the promontorie and mountaine called Tabis, which regardeth the sea. In such sort as one moietie in manner of that coast, all along which looketh toward the East, lieth wast, and is not inhabited. The first people of any knowledge and acquaintaince, be the Seres, famous for the fine silke that their woods doe yeeld. They kembe from the leaves of their trees the hoarie downe thereof, and when it is steeped in water, they card and spin it, yea, and after their manner make thereof a sey or web, wherupon the dames here with us have a double labor both of undoing, and also of weaving againe this kind of yearne. See what adoe there is about it, what labour and toile it costeth, and how farre fet it is: and all for this, that our ladies and wives when they goe abroad in the street may cast a lustre from them, and shine againe in their silkes and velvets. As for the Seres, a mild and gentle kind of people they are by nature: howbeit, in this one point they resemble the bruit and wild beasts, for that they cannot away in the commerce with other nations, with the fellowship and societie of men, but shun and avoid their companie, notwithstanding they desire to *traffick with them. The first river known among them is Psitaras: the next to it, Carabi: the third Lanos: and then you come to a cape of that name. Beyond it is the gulfe Chryse, the river Attanos, and another bay or creeke called Attanos. By it lieth the region of the Attaci, a kind of people, secluded from all noisome wind and aire, keeping upon hils, exposed to the pleasant Sunne shine, where they enjoy the same temperature of aire, that the Hiperboreans live in. Of this countrey and people, *Amometus* hath written a severall booke of purpose: like as *Heratæus* hath compiled such another treatise of the Hyperboreans. Beyond the Attaci or Attacores, the Thyrians and Tocharians do inhabit; yea, and the Casirians, who now by this time belong to the Indians, and are a part of them. But they within-forth that lie toward the Scythians, feed of mans flesh. As for the Nomades of India, they likewise wander to and fro, and keepe no resting place. Some write, that they confine upon the very Ciconians and Brysanians on the North side. But there (as all Geographers doe agree) the mountaines Emodi arise and shoot up: and there entereth the countrey of the East Indians, and extendeth not onely to that sea, but also to the Southerne, which wee have named the Indian sea. And this part of the Orientall Indians, which lieth directly streight forth, as farre as to that place where India beginneth to twine and bend toward the Indian sea, containeth 1875 miles. And all that tract which windeth and turneth along the South, taketh 2475 myles (as *Eratosthenes* hath collected and set downe) even unto the river Indus, which is the utmost limit of India Westward. But many other writers have set downe the whole length of India in this manner, namely, that it requireth 40 daies and nights sailing, with a good gale of a fore-wind: also, that from the North to the South coast thereof, is 2750 myles. Howbeit, *Agrippa* hath put downe in writing that it is 3003 miles long, and 2003 broad. *Posidonius* took measure of it from the Northeast to the Southeast: and that by this means it is directly opposite unto Gaule, which hee likewise measured along the West coast, even from the Northwest point where the Sunne goeth downe at Midsummer, to the Southwest where it setteth in the

* Even at this day they set abroad their wares with the prices, upō the shore, and goe their waies: then the forain merchants come and lay down the money, and have away the merchandise: and so depart without any communication at all.

A in the middest of Winter. He addeth moreover and saith, That this West wind which from be-
hind Gaule bloweth upon India, is very healthsome and holesome for that countrey, and this he
proved by very good reason and demonstration. And verily the Indians have a farre different as-
pect of the skie from us. Other starres rise in their Hemisphære, which we see not. Two Summers
they have in one yeere, and as many harvests: and their Winter between hath the Etesian winds
blowing in our dogdaies, in steed of the Northren blasts with us. The winds are kind & mild with
them: the sea alwaies navigable: the nations there dwelling, and the citties and towns there built,
innumerable, if a man would take in hand to reckon them all. For India hath been discovered, not
onely by *Alexander* the great his mightie and puissant armie, and by other kings his successours,
(and namely *Seleucus* and *Antiochus*, & their Admirall *Patrocles*, who sailed about it even to the
B Hircane and Caspian seas:) but also by diverse other Greek Authors, who making abode, and so-
journing with the kings of India (like as *Megasthenes* and *Dionysius* sent thither of purpose from
Philadelphus) have made relation of the forces which those nations are able to raise and main-
taine. And yet further diligence is to bee emploied still in this behalfe, considering they wrote of
things there so diverse one from another, and incredible withall. They that accompanied *Alex-
ander* the great in his Indian voiage, have testified in their writings, that in one quarter of India
which hee conquered, there were of townes 500 in number, and not one lesse than the citie Cos:
of severall nations nine. Also that India was a third part of the whole earth: and the same so well
inhabited, that the people in it were innumerable. And this they delivered (beleeve me) not with-
out good apparance of reason: for the Indians were in manner the onely men of all others that
C never went out of their owne countrey. Moreover, it is said, That from the time of *Bacchus* unto
Alexander the great, there reigned over them successively 154 kings, for the space of 5402
yeeres betweene, and three moneths over. As for the rivers in that countrey, they be of a wonder-
full bignesse. And reported it is, that *Alexander* sailed every day at the least 600 stadia upon the
river Indus, and yet in lesse than five months and some few daies over, hee could not come to the
end of that river: and lesse it is than Ganges by the confession of all men. Furthermore, *Seneca*
a Latine writer, assaied to write certaine commentaries of India: wherein he hath made report of
60 rivers therein, and of nations, 120 lacking twaine. As great a labour it were to reckon up and
number the mountaines that bee in it. As for the hils Imaus, Emodisus, Paropamisus, as parts all
and members of Caucasus, butt one upon another, and conjoine together. And being past them
D yee goe downe into a mightie large plaine countrey, like to Ægypt. It remaineth now to shew the
continent and firme land of this great countrey, and for the more evident demonstration, let us
follow the steps of *Alexander* the great, and his Historiographers. *Diogneus*, and *Beton* who set
downe all the geasts & journeies of that prince, have left in writing, That from the Caspian ports
unto the citie Hecatompylos which is in Parthia, there are as many miles as we have set down al-
readie. From thence to Alexandria in the Ariane countrey (which citie the same king founded)
562 myles: from whence to Prophthasia in the Dranganes land, 199 miles: and so forward to the
capitoll towne of the Arachosians, 515 myles. From thence to Orthospanum, 250 myles: last of
all, from it to the cittie of Alexandria in Opianum, 50 myles. In some copies these numbers are
found to varie and differ. But to returne to this foresaid citie, situate it is at the very foot of Cau-
E casus. From which to the river Chepta and Pencolaitis, a towne of the Indians, are counted 227
myles. From thence to the river Indus and the towne Tapila, 60 myles: and so onward to the no-
ble and famous river Hidaspes, 120 myles: from which to Hypasis, a river of no lesse account
than the other 4900, or 3900. And there an end of *Alexanders* voiage. Howbeit, he passed over
the river, and on the other side of the banke, hee erected certaine altars and pillers, and there de-
dicated them. The letters also of the king himselfe, sent backe into Greece, do carie the like cer-
tificate of his journies, and agree just herewith. The other parts of the countrie were discovered &
surveied by *Seleucus Nicator*: namely from thence to Hesudrus 168 miles: to the river Ioames as
much: and some copies adde 5 miles more therto: from thence to Ganges 112 miles: to Rhoda-
pha 119, and some say, that between them two it is no lesse than 325 miles. From it to Calinipa-
F xa, a great town 167 miles & an halfe, others say 265. And so the confluent of the rivers Iomanes
and Ganges, where both meet together 225 miles, and many put thereto 13 miles more: from
thence to the town Palibotta 425 miles: and so to the mouth of Ganges where he falleth into the
sea 638 miles. As for the nations, which it paines me not to name, from the mountaines Emodi,
& the principall cape of them, Imaus, which signifieth in that country language full of snow, they

be theſe: the Iſari, Coſyri, Izgi, & upon the very mountains, the Ghiſiotoſagi: alſo the Brachmanæ, a name common to many nations, among whom are the Maccocalingæ. Of rivers beſides, there are Pinnas & Cainas, the later of which twain runneth into Ganges, & both are navigable. The people called Calingæ, coaſt hard upon the ſea. But the Mandei and Malli, among whom is the mountaine Mallus, are above them higher in the countrey. And to conclude, then you come to Ganges, the fartheſt bound and point of all that tract, India. G

Chap. xviii.

The river Ganges.

MAny have beene of opinion, and ſo have written, that the ſpring of Ganges is uncertain, like as that alſo of Nilus: and that he ſwelleth, overfloweth, and watereth all the countries whereby he paſſeth, in the ſame ſort that Nilus doth. Others againe have ſaid that it iſſueth out of the mountaines of Scythia: and how into it there run 19 other great rivers: of which over and above thoſe beforenamed, certaine are navigable, namely, Canucha, Vama, Erranoboa, Coſaogus, and Sonus. There bee alſo that report, that Ganges preſently ariſeth to a great bigneſſe of his owne ſources and ſprings, and ſo breaketh forth with great noiſe and violence, as running downe with a fall over craggie and ſtonie rockes: and when hee is once come into the flat plaines and even countrey, that he taketh up his lodging in a certaine lake: and then out of it carrieth a mild and gentle ſtreame, 8 miles broad where it is narroweſt: and 100 ſtadia over for the moſt part, but 160 where he is largeſt: but in no place under 20 paces deepe, [i. a 100 foot.] H I

Chap. xix.

The nation of India, beyond the river Nilus.

WHen yee are over Ganges, the firſt region upon the coaſt that you ſet foot into, is that of the Gandaridæ and the Calingæ, called Parthalis. The king of this countrey hath in ordinance for his warres 80000 foot, 1000 horſe, and 700 Elephants, readie upon an houres warning to march. As for the other nations of the Indians that live in the champion plaine countries, there be diverſe ſtates of them, of more civilitie than the mountainers. Some applie themſelves to tillage and husbandry: others ſet their minds upon martiall feats: one ſort of them practiſe merchants trade, tranſporting their owne commodities into other countries, and bringing in forraine merchandiſe into their owne. As for the nobilitie and gentrie, thoſe alſo that are the richeſt and mightieſt among them, they manage the affaires of State and Commonweale, and ſit in place of juſtice, or elſe follow the court, and ſit in counſell with the king. A fift eſtate there is beſides in great requeſt, & namely of Philoſophers and Religions, given wholly to the ſtudie of wiſdome and learning; and theſe make profeſſion of voluntarie death: and verily, when they are diſpoſed to die at any time, they make a great funeral fire, caſt themſelves into it, and ſo end their daies. Beſides all theſe, one thing there is amongſt them halfe brutiſh, and of exceeding toile & travell (and yet it is that which partly maintaineth all the other eſtates aboveſaid) namely, the practiſe of hunting, chaſing and taming Elephants. And in very truth, with them they plough their ground, upon them they ride up and downe: with theſe beaſts are they beſt acquainted: they ſerve in the wars for the maintenance of their libertie, & defence of their frontiers againſt all invaſion of enemies. In the choiſe of them for warre-ſervice, they regard and conſider their ſtrength, their age, and bigneſſe of bodie. But to leave them. An Iſland there is within the river Ganges, between two armes thereof, of great largeneſſe and capacitie, which receiveth one nation by it ſelfe, apart from others, and named it is Modogalica. Beyond it are ſeated the Modubians and Molindians, where ſtandeth the ſtately cittie Molinda, ſituate in a plentifull and rich ſoile. Moreover, the Galmodroeſians, Pretians, Caliſſæ, Saturi, Faſſalæ, Colubæ, Orxulæ, Abali, and Taluctæ. The king of theſe countries hath in ordinarie for his warres 50000 foot, 3000 horſe, and 400 Elephants. Then you enter into a countrey of a more puiſſant and valiant nation, to wit, the Andarians, planted with many villages well peopled: and moreover with thirtie great townes, fortified with ſtrong walls, towers, & baſtiles. Theſe find and maintaine preſt and readie to ſerve the king in his wars, an Infanterie of 100000 foot, a Cavallerie of 2000 horſe, and a 100 Elephants beſides, well appointed. Of all the regions of India, the Dardanian countrey K L o M

is

A is most rich in gold mines; and the Selian, in silver. But above all the nations of India throughout, and not of this tract and quarter onely, the Prasij farre exceed in puissance, wealth, and reputation; where the most famous, rich, and magnificent citie Palibotria standeth: whereof some have named the people about it, yea and all the nation generally beyond Ganges, Palibotrians. Their king keepeth continually in pay 600000 footmen, 30000 horsmen, and 9000 Elephants, every day in the yeere. Whereby you may soone gueſſe the mightie power and wealth of this prince. Beyond Palibotria, more within the firme land, inhabite the Monedes and Suari, where standeth the mountaine Maleus: and there for sixe moneths space, the shadowes in winter time fall Northward; and in summer season, goe into the South. The pole Arcticke starres in all that tract, are seene but once in the yeere, and that, no longer than for 15 dayes, as *Beton* maketh re-
B port: but *Megasthenes* writeth, that this is usuall in other parts of India. The Antarctick or South pole, the Indians call Dromosa. As for the river Iomanes, which runneth into Ganges, it traverseth through the Palibotrians countrey, and passeth betweene the townes Methora and Cyrisoborca. Beyond the river Ganges, in that quarter and climate which lyeth Southward, the people are caught with the sunne, and begin to be blackish: but yet not all out so sun-burnt and black indeed as the Moores and Æthiopians. And it seemeth, that the neerer they approach to the river Indus, the deeper coloured they are and tanned with the sunne: for you are not so soone past the Prasians country, but presently you are upon Indus: and among the mountains of this tract, the Pygmæans (by report) doe keepe. *Artemidorus* writeth, that betweene these two rivers, there is a distance of 21 miles.

C

Chap. xx.

The river Indus.

THe great river Indus, which the people of that countrey call Sandus, issueth out of a part or dependance of the hill Caucasus, which is called Paropamisus: he taketh his course and runneth full against the sun-rising, and maketh 19 rivers more to loose their names, which he taketh in unto him. Among which, the principall are these, Hydaspes one, bringing with him foure more: and Cantabra another, accompanied with three besides. Moreover, of such as are of themselves navigable without the help of others, Acesines and Hypasis. And yet for all these
D additions, the river of Indus (such a sober and modest course as it were, his waters keepe) is in no place either above 50 stadia over, or deeper than 15 paces, *i.* threescore and fifteene foot, or twelve fadome and a halfe. This river encloseth within two braunches of it, a right great Island named Prasiane, and another that is lesse, which they call Patale. As for himselfe, they that have written of him with the least, say that hee beareth vessels for 1240 miles: and turning with the course of the sunne, keepeth him companie Westward, untill he is discharged into the Ocean. The measure of the sea-coast from Ganges unto him, I will set downe generally and in grosse, as I find it written: albeit there is no agreement at all of Authors, as touching this point. From the mouth of Ganges where he entreth into the sea unto the cape Caliugon, and the towne Dandagula, are counted 725 miles: from thence to Tropina 1225 miles. Then to the promontorie of
E Perimula, where standeth the chiefe mart or towne of merchandise in all India, they reckon 750 miles: from which to the towne abovesaid Patale within the Island 620 miles. The mountainers inhabiting betweene it and Iomanes, are the Cesti and Celiboni, wild and savage people: next to them, the Megallæ, whose king hath in ordinarie prest for service 500 Elephants; of foot and horsemen a great number, but uncertaine it is how many; sometime more, sometime fewer. As for the Chrysæans, Parasangians, and Asangians, they are full of the wild and cruell tygres: they are able to arme 30000 foot and 800 horse, and to set out with furniture 300 Elephants. This countrey is on three sides environed and enclosed with a raunge of high mountaines: all desert and full of wildernesse for 625 miles, and of one side confined with the river Indus. Beneath those wild hills, you enter among the Dari and Suræ; and then you come againe to wast deserts for
F 188 miles, compassed about for the most part with great barres and bankes of sand, like as the Islands with the sea. Vnder these desert forrests, you shall meet with the Maltecores, Cingians, Marobians, Rarungians, Moruntes, Masuæ, and Pangungæ. Now for those who inhabite the mountaines, which in a continuall raunge without interruption stand upon the coasts of the Ocean, they are free states and subject to no prince, and many faire townes and cities they hold among

among these cliffes and craggie hills. Then come you to the Naræans, enclosed within the high- G
est mountaine of all the Indian hills, Capitalia. On the other side of this mountaine, great store there is all over it, of gold and silver mines, wherein the inhabitants doe digge. Then, yee enter upon the kingdome of Oratura, whose king hath indeed but 10 Elephants in all, howbeit a great power of footmen. And so forward to the Varetates, who under their king keepe no Elephants at all for his service, trusting upon their Cavallerie and Fanterie, wherein they are strong. And next to them the Odomboërians and Salabastres, where standeth a goodly faire citie called Horata, environed and fortified with deepe fosses and ditches full of standing water: wherein there keepe a great number of Crocodiles, which for the greedie appetite they have to devoure mens bodies, will suffer none to passe into the towne, but over the bridge. Another towne there is besides among them, of great name and importance, to wit, Automela, standing upon the sea side: H
and otherwise much resort there is unto it of merchants from al parts, by reason of 5 great rivers which meet all there in one confluence. Their king maintaineth in ordinarie 1600 Elephants, 150000 footmen, and 5000 horse. The king of the Charmians is but poore to speake of, his strength lyeth in 60 Elephants; for his power otherwise is but small. Being past that realme, you come into the countrey of the Padians, the only nation of all the Indians, which is governed by women. One of this sexe, they say, was begotten sometime by *Hercules*, in which regard shee was the better accepted, and had the prerogative of the regencie over the greatest kingdome. From her the other Queens fetch their pedigree, and have the dominion and rule over thirtie great townes, and the commaund of 150000 foot and 500 Elephants. Beyond this realme, you come to the nation of the Syrieni, containing 300 cities: and from them to the Deraugæ, Posunge, I
Bugæ, Gogyarei, Vmbræ, Nereæ, Brancosi, Nobundæ, Cocondæ, Nesei, Pedatritæ, Solobriasæ, and Olostræ, who confine upon the Iland * Patale: from the utmost point of which Iland unto the gates Caspiæ, are reckoned 18025 miles. Now on this side the river Indus, just against them, as appeareth by evident demonstration, there dwell the Amatæ, Bolingæ, Gallitalutæ, Dimuri, Megari, Ordabæ, and Mesæ. Beyond them, the Vri and Sileni: and then you come to the deserts for 250 miles: which when yee have passed over, you shall meet with the Organages, the Abaorts, Sibaræ, and the Suertæ: and beyond these, a wilderneese againe, as great as the former. Passe on farther, you come among the Sarophages, Sorgæ, Baraomatæ, and the Gunbretes: of whome there be 13 severall nations, and each one hath two great cities apeeces. As for the Aseni, they people three cities: their capital cite is Bucephala, built in the very place where king K
Alexanders horse called Bucephalus, was enterred. Above them, are the mountainers on the rising of the hill Caucasus, named Soleadæ and Sondræ: and when you are on the other side of the river Indus, as you goe along the coast and banks thereof, you shall see the Samarabrians, the Sambrucenes, the Brisabrites, Osij, Autixeni, and Taxillæ, with a famous citie called Amandra: of which all that tract now lying more flat and plaine within the countrey, is named Amandria. Foure other nations there are besides of Indians, the Peucolaitæ, Arsagalites, Geretes, and Asei: for many of the Geographers set not down Indus the river, for to determine the marches of the Indians Westward; but lay thereto 4 other provinces and severall seignories, to wit, of the Gedrosians, Arachotes, Arij, and Paropamisades.

* Babul.

L

Chap. xxi.

The Arij, and other nations depending unto them.

Other writers are of opinion, that the utmost frontier and limit of India, is the river Cophetes, and both it and all those quarters are included within the territorie or province of the Arij: yea and most of them affirme, that the citie Nysa, as also the mountaine Merus consecrated to god *Bacchus*, belong unto India as parcels thereof. This is that mountaine whereof arose the poëticall fable, That *Bacchus* therein was borne and issued out of *Iupiter* his thigh. Likewise they assigne and lay to India, the countrey of the Aspagores, so plentifull in vines, laurels, and box, and generally of all sorts of apple trees and other fruitfull trees that grow within M
Greece. Many straunge, wonderfull, and in maner fabulous things, they report of the fertilitie of that land, of the divers sorts of corne, of trees bearing cotton, of wild beasts, of birds, and other creatures there breeding and living: which because they are not properly belonging to this treatise now in hand, I will reserve them for another part of this worke, and write more particularly

A larly of them in their due and severall places. And as for those 4 provinces or Satrapies, which I touched before, I will speake of them soone after and within a while: for now I hasten and think it long untill I have said somwhat of the Iland Taprobane. And yet before I come to it, there be other Iles which I cannot passe by, and namely that of Patala, which I noted to lye in the verie mouth of the river Indus, and it carrieth the forme and fashion of a triangle figure, and is 220 miles long. Without the mouth of the river Indus, two other Ilands there be, Chryse and Agyræ, so named (as I thinke) of the gold and silver mines which they doe yeeld: for I cannot easily beleeve, that the verie earth and soile there is all gold and silver entire, as some have made report. Twentie miles from them, lyeth the Isle Crocala: and 12 miles farther into the sea, Bibaga, where, of oysters and other shell-fishes called Purples, are found good store. And last of all, nine
B miles beyond it, Toralliba sheweth it selfe, and many other petie Ilands of no regard.

Chap. xxii.

The Iland Taprobane.

IT hath beene of long time thought by men in auncient dayes, that Taprobane was a second world, in such sort as many have taken it to be the place of the Antipodes, and called it, The Antichthones world. But after the time of *Alexander* the Great, and the voiage of his armie into those parts, it was discovered and knowne for a truth, both that it was an Iland, and what compasse it bare. *Onesicratus* the Admirall of his fleet, hath written, that the Elephants bred in
C this Iland be bigger, more fierce and furious for war-service, than those of India. *Megasthenes* saith, that there is a great river which parteth it in twaine, and that the people thereof dwelling along the river, be called Palæogoni: adding moreover, that it affourdeth more gold, and bigger pearles by far, than India doth. *Eratosthenes* also tooke the measure thereof, and saith, that in length it beareth 7000 stadia, and in bredth 5000: that in it there be no cities & great towns, but villages to the number of 700. It beginneth at the Levant sea of Orientall Indians, from which it stretcheth and extendeth between the East and West of India: and was taken in times past to lye out into the sea from the Prasian countrey twentie dayes sailing. But afterwards, for that the boates and vessels used upon this sea in the passage thither, were made and wound of papyr reeds like those of the river Nilus, and furnished with the same kind of tackling, the voyage thither
D from the foresaid countrey was gaged within a lesse time: and well knowne it was, that according to the saile of our ships and gallies, a man might arrive there in seven daies. All the sea lying betweene, is verie ebbe, full of shallowes and shelves, no more than five fathom deepe. Howbeit in certain chanels that it hath, it is so deepe that it cannot be sounded, neither will any ancres reach the botome and there rest: and withall, so streight and narrow these chanels are, that a ship cannot turne within them: and therefore to avoid that necessitie of turning about in these seas, the ships have proes at both ends, and are pointed ech way. In sailing, they observe no starre at all. As for the North pole, they never see it: but they carrie ever with them certaine birds in their shippes, which they send out oftentimes when they seeke for land, observing ever their flight; for knowing well that they will flie to land, they accompanie them, and bend their course accor-
E dingly: neither use they to saile more than one quarter in the yeere: and for one hundred dayes after the sunne is entred into Cancer, they take most heed and never make saile; for during that time it is winter season with them. And thus much we come to knowledge of, by relation of auncient writers. But wee came to farre better intelligence, and more notable information, by certaine Embassadours comming out of that Iland, in the time of *Claudius Cæsar* the Emperour: which happened upon this occasion and after this manner. It fortuned, that a freed slave of Annius Plocamus, who had fermed of the Exchequer the customes for impost of the red sea, as he made saile about the coasts of Arabia, was in such wise driven with the North winds besides the realme of Carmania, and that for the space of 15 dayes, that in the end hee fell with an harbour thereof called Hippuros, and there arrived. When he was set on land, he found the king of that
F countrey so courteous, that hee gave him entertainment for 6 moneths, and entreated him with all kindnesse that could be devised. And as he used to discourse and question with him about the Romanes and their Emperour, he recounted unto him at large of all things. But among many other reports that he heard, he wondred most of all at their justice in all their dealings, and was in love therewith, and namely, that their Denieres of the money which was taken were alwaies of

like

like weight, notwithstanding that the sundry stamps and images upon the peeces shewed plainly that they were made by divers persons. And hereupon especially was he mooved and sollicited to seeke for the alliance and amitie of the people of Rome: and so dispatched 4 Embassadours of purpose, of whome one *Rachias* was the chiefe and principall personage. By these Embassadours we were enformed of the state of that Island, namely, that it contained five hundred great towns in it: and that there was a haven therin regarding the South coast, lying hard under Palesimundum the principall citie of all that realme, and the kings seat and pallace: that there were by just account 200000 of commoners and citizens: moreover, that within this Iland there was a lake 270 miles in circuit, containing in it certaine Islands good for nothing else but pasturage, wherein they were fruitfull; out of which lake there issued two rivers, the one, Palesimundas, passing neere to the citie aboveSaid of that name, and running into the haven with three H
streames, whereof the narrowest was five stadia broad, and the largest 15; the other Northward on India side, named Cydara: also that the next cape of this countrey to India, is called Colaicum, from which to the neerest port of India is counted four daies sailing: in the mids of which passage, there lyeth in the way, the Iland of the Sunne. They said moreover, that the water of this sea was all of a deepe greene colour; and more than that, full of trees growing within it: insomuch as the pylots with their helmes many times brake off the heads and tops of those trees. The starres about the North pole, called Septentriones, the Waines or Beares, they wondred to see here among us in our Hemisphere: as also the Brood-hen, called *Vergiliæ* in Latine, as if it had been another heaven. They confessed also they never saw with them, the moone above the ground before it was 8 dayes old, nor after the 16 day. That the Canopus, a goodly great and I
bright starre about the pole Antarcticke, used to shine all night with them. But the thing that they marveiled and were most astonied at was this, that they observed the shadow of their own bodies fell to our Hemisphere, and not to theirs; and that the sunne arose on their left hand and set on their right, rather than contrariwise. Furthermore they related, that the front of that Iland of theirs which looked toward India, contained 10000 stadia, and reached from the Southeast beyond the mountains Enodi. Also, that the Seres were within their kenning, whom they might easily discover from out of this their Island; with whome they had acquaintance by the meanes of trafficke and merchandise: and that *Rachias* his father used many times to travaile thither. Affirming moreover, that if any straungers came thither, they were encountred and assailed by wild and savage beasts: and that the inhabitants themselves were giants of stature, exceeding the K
ordinarie proportion of men, having red haire, eies of colour blewish, their voice for sound horrible, for speech not distinct nor intelligible for any use of trafficke and commerce. In all things else their practise is the same that our merchants and occupiers doe use: for on the farther side of the river, when wares and commodities are laid downe, if they list to make exchaunge they have them away, and leave other merchandise in lieu thereof to content the forrein merchant. And verily no greater cause have we otherwise to hate and abhor this excessive superfluitie, than to cast our eye so far and consider with our selves, what it is that we seeke for, from what remote parts we fetch it, and to what end we so much desire all this vanitie. But even this Iland Taprobane, as farre off as it is, seeming as it were cast out of the way by Nature, and divided from all
this world wherein we live, is not without these vices and imperfections wherewith we are tainted and infected. For even gold and silver also is there, in great request and highly esteemed: and L
marble, especially if it be fashioned like a tortoise shell. Iemmes and precious stones; pearles also, such as be orient and of the better sort, are highly prised with them: and herein consisteth the verie heigth of our superfluous delights. Moreover, these Embassadours would say, that they had more riches in their Island, than wee at Rome, but we more use thereof than they. They affirmed also, that no man with them had any slaves to commaund: neither slept they in the morning after day-light, ne yet at all in the day time. That the manner of building their houses was low, somewhat raised above the ground and no more adoe: that their markets were never deare, nor price of victuals raised. As for courts, pleading of causes, and going to law, they knew not what it meant. *Hercules* was the onely god whome they worshipped. Their king was M
alwayes chosen by the voices of the people: wherein they had these regards; that hee were aged, mild, and childlesse: but in case hee should beget children afterward, then hee was deposed from his regall dignitie, to the end that the kingdome should not in processe of time be hereditarie and held by succession, but by election onely. This king being thus chosen and

invested,

A invested, hath thirtie other governours assigned unto him by the people: neither can any person bee condemned to death, unlesse hee be cast by the more part of them, and pluralitie of voices: and thus condemned as hee is, yet may hee appeale unto the people. Then are there 70 judges deputed to sit upon his cause: and if it happen that they assoile and quit this partie condemned: then those 30 who condemned him, are displaced from their state and dignitie, with a most bitter and greevous rebuke; and for ever after, as disgraced persons live in shame and infamie. As for the king, arraied he is in aparrell as prince *Bacchus* went in old time: but the subjects and common people are clad in the habit of Arabians. If it fortune that the king offend, death is his punishment: howbeit, no man taketh in hand to doe execution. All men turne away their faces from him, and deigne him not a looke nor a word. But to doe him to death in the end, they
B appoint a solemne day of hunting, right pleasant and agreeable unto Tygres and Elephants, before which beasts they expose their king, and so he is presently by them devoured. Moreover, in that Island good husbands they are for their ground, and til the same most diligently. Vines have they no use of at all: for all sorts of fruits otherwise they have abundance. They take also a great pleasure and delight in fishing, and especially in taking of tortoisses: and so great they are found there, that one of their shels will serve to cover an house: and so the inhabitants doe employ them in steed of rouses. They count an hundred yeeres no long life there: that is the ordinarie time of their age. Thus much we have learned and knowne as touching Taprobane. It remaineth now to say somewhat of those foure Satrapies or provinces, which we did put off unto this place. Of them therefore as followeth.

C

Chap. XXIII.

Capissene, Carmania.

BEyond those nations that confine hard upon the river Indus, as ye turne toward the mountaines, yee enter upon the realme of Capissene, wherein sometime stood the citie Capissa, which *Cyrus* the king caused to bee raised. At this day there standeth the citie Arachosia, with a river also of that name in the countrey Arachosia: which citie some have called Cophe, founded by queene *Semiramis*. There likewise is to be seen the river Hermandus, which runneth by Abeste, a citie of the Arachosians. The next that confront Arachosia Southward, toward part
D of the Arachotes, are the Gedrosi: and on the North side, the Paropamisades. As for the towne Cartana, named afterwards Tetragonius, situate it is at the foot of the mountain Caucasus. This countrey lieth overagainst the Bactrians: then you come to the principall towne thereof Alexandria, named so of king *Alexander* the founder thereof: upon the marches whereof are the Syndrari, Dangulæ, Porapiani, Cantaces, and Maci. Moreover, upon the hill Caucasus standeth the towne Cadrusi, built likewise by the said *Alexander*. On this side all these regions lieth the coast of the river Indus. Then followeth the region of the Arianes, all scorched and senged with the parching heat of the Sunne, and environned about with deserts: howbeit, many shaddowie vallies lie betweene to allay the exceeding heat. Well peopled it is about the two rivers especially, Tonderos and Arosapes. Therein standeth the citie Artaccana. Being past it, the river Arius
E runneth under the citie Alexandria, built by *Alexander* the great. The towne containeth in compasse 30 stadia. Then come you to Artacabane, a cittie as it is much more auncient, so it is also fairer by farre, which by *Antiochus* the king was walled the second time, and enlarged to 50 stadia. The next in order is the nation of the Dorisci. The rivers Pharnacotis and Ophradus. Prophtasia, a towne in Zarasparia. The Drangæ, Argetæ, Zarangæ, and Gedrusij. Townes moreover, Peucolais and Lymphorta. After you are past their territorie, you enter into the deserts of the Methoricanes: and so to the river Mauain, and the nation of the Augutturi. The river Borru, the people called Vrbi, the navigable river Ponamus, which passeth through the marches of the Pandanes. Over and besides, the river Ceberon within the countrey of the Sorares, which in the mouth thereof where it falleth into the sea, maketh many baies and harbours. As you go far-
F ther, you come upon the towne Candigramma, with the river Cophes: into which there runne other rivers that carrie vessels, to wit, Sadarus, Parasp[illegible]; and Sodinus. As for the countrey Daritus, some would have it to be a part of Ariana, and they set downe the measure of them both together, to be in length 1950 miles, and in breadth lesse by halfe than India. Others have set down that the countrey of the Gedrusians and Scyrians may containe 183 miles. Being passed which

quarters,

quarters, you enter into the region of the Ichthyophagi, surnamed Oritæ or Mountainers (who G
have a proper language by themselves, and speake not in the Indian tongue) which reacheth on
still for 200 miles. And beyond it you meet with the people of the Arbians, who likewise continue
for other 200 miles. As for those Ichthyophagi beforenamed, *Alexander* by an expresse edict
forbad them all to feed on fish. Being past them, you are in the deserts: and beyond them you
come into Carmania, Persis, and Arabia. But before that we treat distinctly of these countries, I
thinke it meet to set downe what *Onesicritus* (who having the conduct of a fleet under *Alexander*
the great, sailed from off India, about the Southerly coasts of Persis) reporteth, according
to those intelligences which came lately from king *Juba*. In like manner those voiages of ours for
these yeeres past, performed, by which even at this day wee are guided. Howbeit, in the reports
made by *Onesicritus* and *Nearchus* of their navigations, we find neither the distance, ne yet the H
names of the severall resting places, after every daies journey. And to begin with the citie Xyle-
nepolis built by *Alexander*, from which they entred first into their voiage, it is not put downe by
them, either in what place it is situate, nor upon what river. Yet these particulars following are by
them reported worth remembrance: to wit, that in this voiage *Nearchus* founded a town in those
parts: that the river Nabrus runneth therby, and is able to bear great vessels: overagainst which
there is an Iland 70 stadia within the sea. Moreover, that *Leonatus* caused Alexandria to be built
in the frontiers of that region, by direction and commaundement from king *Alexander*, where
the river Argenus entereth into the sea, and yeeldeth a safe and commodious haven. Also that
the river Tuberum is navigable, along the bankes whereof the Parites inhabite. And after them
the Ichthyophagi, who take up so long a tract, that they were 20 daies sailing by their coasts. I
They make relation likewise of the Iland of the Sun, named also the couch or bed of the nimphs:
This Iland is red all over, and no living creature will live therein, but is consumed and perisheth
no man knoweth how or upon what cause. They speake besides of the nation of the Orians: as
also of Hytanis a river in Carmania, which affourdeth many baies and harbours, yea, and plentie
of gold in the gravell and sand thereof. And here was the first place wherein they observed, that
they had a sight of the North-pole starre. As for the starre *Arcturus*, they affirmed, that they saw
it not every night, nor at any time all night long. Furthermore, that the countrey of the Achæ-
menides in Persea, reached thus farre. Over and besides, that as they travelled, ordinarily they
found good store of mines, wherein was digging for brasse, yron, Arsenicke or Sardaracha, and
Vermillion. And then they came to the cape of Carmania: from which to the coast overagainst K
them of the Maræ, a people in Arabia, the cut over sea is 50 miles. Vpon these coasts they disco-
vered three Ilands, whereof Organa onely is inhabited, by reason of fresh waters within it, and
from the continent it lieth about 25 miles. And foure Ilands more they fell upon, even in the
Persian gulfe overagainst Persia. And about these Ilands they might see sea-adders and serpents
so monstrous great, that as they came swimming toward them, they put the very fleet in great
fright, for there were among them some, 20 cubites long. Beyond it they met with the Iland A-
crotadus: likewise the Gaurates Isles, wherein the nation of the Chiani doe inhabite. About the
middle of this gulfe or arme of the sea, the river Hiperis hath his course, able to bear great hulkes
and ships of burden. Also the river Sitiogagus, upon which a man may passe in seven daies to Pa-
sargadia. Also a river that is navigable called Phirstimus, and an Iland within it, but it is name- L
lesse. As for the river Granius which runneth through Susiane, it carrieth but small vessels. Along
the coast on the right hand of this river dwell the Deximontanes, who dresse and prepare Bitu-
men. Then they came to the river Oroatus, with a daungerous haven or mouth where it falleth in-
to the sea, unlesse a man be guided by skilfull pilots: and full against this river there are discove-
red two little Ilands. Past which, the sea is very low and shallow, full of shelves and sands, more
like a meere and marish water, than a sea. Howbeit, there bee certaine trenches or channels in it
that draw deepe water, wherein they may without daunger saile. Then met they with the mouth
of the river Euphrates. Also the lake, which the two rivers Eulæus and Tigris doe make, neere
unto Characum. And so from thence they arrived upon the river Tigris, at Susa. And there an
end of the navigation performed by *Onesicritus* and *Nearchus*. For after they had beene three M
months embarked and in their voiage upon the sea, they found *Alexander* at Susa (where he fea-
sted and made solemne bankets) and that was seven months after he parted from them at Patalæ.
And thus much concerning the voiage of *Alexander* his fleet. Now afterwards from Syagrus, a
Promontorie in Arabia, it was counted unto Patale 1332 miles, and held it was for certain then,

that

A that the West wind which the people of that countrey call Hypalus, was thought most proper for to make saile to the same place. Howbeit the age ensuing discovered a shorter and safer cut, namely, if from the said promontorie or cape Syagrus, they set their course directly to the mouth of the river Zizerus, which maketh an harborough in India. And in truth this passage held a long time, untill such time that in the end the merchants found out a more compendious and shorter course, and gained by their voiage to India: for every yeere now they saile thither, and for feare of pirates and rovers that were wont very much to infest and annoy them, they used to embarke in their ships certaine companies of Archers. And seeing that all these seas are now discovered, and never before so certainely, I will not thinke much of my paines, to declare and shew the whole course of our Indian voiages from out of Ægypt. And first and formost this is a thing
B worthie to be noted and observed of every man, that there is not a yeere goeth over our heads, but it costs our State to furnish a voiage into India, 500 hundred thousand Sesterces, or fiftie millions of Sesterces. For which the Indians sendeth backe againe commodities and merchandise of their owne, which being at Rome, are sold for an hundred times as much as they cost, or yeeld in the price an hundredfold gaine. But to returne againe to our voiage, from Alexandria in Ægypt, it is two miles to Iuliopolis: from whence upon the river of Nilus, they saile 303 miles to Coptus, which may be done in twelve daies space, having the Etesian winds at the poupe. From Coptus they travell forward upon Cammels backs: and for great default of water in those parts, there be certaine set places for bait, lodging, and watering. The first is called Hydreuma, 32 miles from Coptus. The second one daies journey from thence, in a certaine mountaine. The third
C watering place at another Hydreuma, 95 miles from Coptus. The fourth againe in a second mountaine. The fifth is at a third Hydreuma of *Apollo*, from Coptus 184 miles. Beyond which, the resting place is upon another hill. And then to Hydreuma the new, from Coptus 234 miles. Another water towne there is, called Hydreuma the old, named also Troglodyticum, where two miles out of the port way lieth a garrison, keeping watch and ward both day and night: and foure miles distant it is from new Hydreuma. From whence they travell to the towne Berenice, an haven towne standing upon the red sea, 258 miles from Coptus. But for as much as the journey all this way is for the most part performed in the night season, by reason of the excessive heat, and the travellers are forced to rest all the day long, therefore twelve daies are set down for the whole voiage betweene Coptus and Berenice. The time then that they usually begin to set saile, is about
D Midsummer before the dog daies, or presently upon the rising of the dog starre. And about the 30 daies end they arrive at Ocelis in Arabia, or els at Cama, within Saba, the country of incense. A third port there is besides called Muza, unto which there is no resort of merchants out of India: neither is it in request but with merchants that adventure onely for incense, drugs, and spices of Arabia. Howbeit, peopled this countrey is within-forth, and hath divers great townes. Of which, Saphar is the principall, and the kings seat: and another besides of good importance called Sabe. But for them that would make a voiage to the Indians, the most commodious place to set forward is Ocelis: for from thence, and with the West wind called Hypalus, they have a passage of fortie daies sailing to the first towne of merchandise in India, called Muziris. Howbeit a port this is, not greatly in request, for the daunger of pirates and rovers, which keepe ordinarily
E about a place called Hydræ: and besides that, it is not richly stored and furnished with merchandise. And more than so, the harborough is farre from the towne, so as they must charge and discharge their wares too and fro in little boats. At the time when I wrote this storie, the king that reigned there, was named *Celebothras*. But another haven there is more commodious, belonging to the Necanidians, which they cal Becare: the kings name at this present is *Pandion*: not far off is another town of merchandise within the firme land, called Maduſa. As for that region, from whence they transport pepper in small punts or troughes made of one peece of wood, it is named Cotona. And yet of all these nations, havens, and townes, there is not a name found in any of the former writers. By which it appeareth, that there hath been great change and alteration in these places. But to come againe to India, our merchants returne from thence back in the begin-
F ning of our moneth December, which the Ægyptians call Tybis: or at farthest before the sixt day of the Ægyptians month Machiris, and that is before the Ides of Ianuarie: and by this reckoning they may passe to and fro, and make returne within the compasse of one yeer. Now when they saile from India, they have the Northeast wind Vulturnus with them: and when they are entred once into the red sea, the South or Southwest. Now will we return to our purposed discourse

So as it appeareth that every daies journey was about 34 miles.

as concerning Carmania. The coaſt whereof after the reckoning of *Nicearchus* may take in circuit 12050 miles. From the firſt marches thereof to the river Sabis is counted 100 miles. From whence all the way as farre as to the river Andaius, the countrey is rich and plenteous, for in it are vineyards and corne fields, well husbanded. This whole tract is called Amuzia. The principal towns of Carmania be Zetis and Alexandria. Vpon the marches of this realme, the ſea breaketh into the land in two armes: which our countreymen are wont to call the red ſea, and the Greekes Erythræum, of a king named *Erythras*: or (as ſome thinke) becauſe the ſea by reaſon of the reflection and beating of the Sunne beames, ſeemeth of a reddiſh colour. There be that ſuppoſe that this redneſſe is occaſioned of the ſand and ground which is red: and others againe, that the very water is of the owne nature ſo coloured.

Chap. xxiiii.

The Perſian and Arabian gulfes.

THis red ſea is divided into two armes: that from the Eaſt is named the Perſian gulfe, & beareth in compaſſe 2500 miles, by the computation of *Eratoſthenes*. Overagainſt this gulfe in Arabia, which lieth in length 1200 miles. On the other ſide another arme there is of it called the Arabian gulfe, which runneth into the Ocean, called Azanius. The mouth of the Perſian gulfe where it maketh entrance, is five miles over, and ſome have made it but foure. From which to the furtheſt point thereof, take a direct and ſtreight meaſure by a line, and for certaine it is knowne that it containeth 1125 miles: and is faſhioned like for all the world to a mans head. *Oneſicritus* and *Nearchus* have written, That from the river Indus to the Perſian gulfe, & ſo from thence to Babylon by the meeres and fennes of the river Euphrates, it is 2500 miles. In an angle of Carmania inhabit the Chelonophagi, *i.* ſuch as feed upon the fleſh of Tortoiſes, and the ſhels of them ſerve for rouſes to cover their cottages. They inhabite all that coaſt along the river Arbis, even to the very cape: rough they are, hairie all their bodie over but their heads, and weare no other garment but fiſh skinnes.

Chap. xxv.

The Iſland Caſſandrus: and the kingdomes under the Parthians.

WHen you are paſſed this tract of the Chelonophagi, directly toward India, there lieth fiftie miles within the ſea, the Iſland Caſſandrus, by report all deſert and not inhabited: and neere unto it, with a little arme of the ſea betweene, another Iſland called Stois; wherein pearles are good chaffer, and yeeld gainefull trafficke. But to returne again to Carmania, when you are beyond the utmoſt cape therof, you enter preſently upon the Armozei, who joine upon the Carmanians. But ſome ſay, that the Arbij are between both: and that their coaſts may containe in the whole 402 miles. There are to bee ſeene the port or haven of the Macedonians, & the alters or columnes which *Alexander* erected upon the very promontorie & utmoſt cape. Where alſo be the rivers Saganos, Daras, and Salſos. Beyond which is the cape Themiſceas, and the Iſland Aphrodiſias well peopled. Then beginneth the realme of Perſis, which extendeth to the river Oroatus, that devideth it from Elymais. Overagainſt the coaſts of Perſis, theſe Iſlands bee diſcovered, Philos, Caſſandra, and Aratia, with an exceeding high mountaine in it: and this Iſland is held conſecrated unto *Neptune*. The very kingdome of Perſis Weſtward hath the coaſts lying out in length 450 miles. The people are rich, and given to roiall and ſuperfluous expenſe in all things: and long ſince it is, that they are become ſubject unto the Parthians, and carie their name. And ſeeing that we are come to mention them, we will breefely now ſpeake of their Empire and dominion. The Parthians have in all 18 realmes under them: for ſo they tearmed all their provinces, as they lie devided about the two ſeas, as we have before ſaid: namely the red ſea Southward, and the Hircane ſea, toward the North. Of which, eleven that lie above in the countrey, and are called the higher provinces, they take their beginning at the confines & marches of Armenia, and the coaſts of the Caſpians of the one ſide: and reach to the Scythians, whom they confront of the other ſide, with whom they converſe and keepe companie together as equals. The other ſeven are called the baſe or lower Realmes. As for the Parthians, their land was alwaies counted to lie at the foot and deſcent of thoſe mountaines, whereof we have ſo often

ſpoken,

A ſpoken,which doe environ and encloſe all thoſe nations. It confineth Eaſtward upon the Arij, and Southward,upon Carmania and the Arians: on the Weſt ſide it butteth upon the Pratites and Modes: and on the North,boundeth upon the realm of Hircania: compaſſed round about with deſerts and mountaines. The utmoſt nations of the Parthians before yee come to thoſe deſerts be called Nomades: and their cheefe townes ſeated toward the Weſt, are Iſlaris and Calliope,whereof wee have written before: but toward the Northeaſt,Europum; and Southeaſt,Mania. In the heart and midland ſtandeth the citie Hecatompylos,as alſo Arſacia. And there likewiſe the noble region of Nyſæa in Parthyerum: together with the famous citie Alexandropolis, bearing the name of *Alexander* the firſt founder.

B

Chap. xxvi.

Of *Media*, *Meſopotamia*, *Babylon*, and *Seleucia*.

REquiſite now it is and needful in this place to deſcribe the poſiture and ſituation of the Medians kingdome,and to diſcover all thoſe countries round about,as farre as to the Perſian ſea, to the end that the deſcription of other regions hereafter to bee mentioned,may the better bee underſtood. Wherein this firſt and formoſt is to bee obſerved, that the kingdome of Media on the one ſide confronteth both Perſis and Perſia, and caſting forth a crooked and winding horne as it were toward the Weſt, ſeemeth to encloſe within that compaſſe both the ſaid realmes. Nevertheleſſe, on the Eaſt ſide it confineth upon the Parthians and Caſpians: on the
C South, Sittacene, Suſiane, and Perſis: Weſtward, Adiabene: and Northward, Armenia. As for the Perſians,they alwaies confronted the red ſea,wherupon it was called the Perſian gulfe. Howbeit,the maritime coaſt thereof is called Cyropolis,and that part which confineth upon Media, Elymais. In this realme there is a ſtrong fort called Megala, in the aſcent of a ſteepe high hill, ſo direct upright, that a man muſt mount up to it by ſteps and degrees, and otherwiſe the paſſage is very ſtreight and narrow. And this way leadeth to Perſepolis the head citie of the whole kingdome,which *Alexander* the great cauſed to bee raſed. Moreover,in the frontiers of this Realme, ſtandeth the citie Laodicea,built by king *Antiochus*. From whence as you turn into the Eaſt,the ſtrong fort or caſtle Paſſagarda is ſeated,which the ſages or wiſe men of Perſia called Magi,doe hold,and therein is the tombe of *Cyrus*. Alſo the citie Ecbatana belonging to theſe ſages,which
D *Darius* the king cauſed to be tranſlated to the mountaines. Betweene the Parthians and the Arians lie out in length the Parotacenes. Theſe nations and the river Euphrates ſerve to limit and bound the ſeven lower realmes beforenamed. Now are we to diſcourſe of the parts remaining behind of Meſopotamia; ſetting aſide one point and corner thereof, as alſo the nations of Arabia,wherof we ſpake in the former booke. This Meſopotamia was in times paſt, belonging wholly to the Aſſyrians, diſperſed into petie villages and burgades, all ſave Babylon and Ninus. The Macedonians were the firſt, that after it came under their hands reduced it into great citties, for the goodneſſe and plentie of their ſoile and territorie. For now beſides the abovenamed townes, it hath in it, Seleucia, Laodicea, and Artemita: likewiſe within the quarters of the Arabians named Aroei and Mardani, Antiochea: and that which being founded by *Nicanor*, governour of
E Meſopotamia,is called Arabis. Vpon theſe joine the Arabians,but well within the countrey are the Eldamarij. And above them is the cittie Bura, ſituate upon the river Pelloconta: beyond which are the Salmanes and Maſeans, Arabians. Then there joine to the Gordiæans thoſe who are called Aloni,by whom the river Zerbis paſſeth,& ſo diſcharged into Tigris. Neere unto them are the Azones & Silices,mountainers, together with the Orentians: upon whom confronteth the citie Gaugamela on the Weſt ſide. Moreover,there is Sue among the rocks: above which are the Sylici & Claſſitæ,through whom Lycus the river runneth out of Armenia. Alſo,toward the Southeaſt, Abſitris,and the town Azochis. Anon you come down into the plains & champion countrey,where you meet with theſe towns,Dioſpage,Poſytelia,Stratonicea,and Anthemus. As for the citie Nicephorium, as we have once alreadie ſaid,it is ſeated neere to the river Euphrates,
F where *Alexander* the great cauſed it to bee founded, for the pleaſant ſeat of the place, and the commoditie of the countrey there adjoining. Of the citie Apamia we have before ſpoken in the deſcription of Zeugma: from which, they that goe Eaſtward meet with a ſtrong fortified towne, in old time carying a pourpriſe and compaſſe of 65 ſtadia,called the roiall pallace of their great dukes and potentates, named Satrapæ, unto which from all quarters men reſorted to pay their

impoſts, cuſtomes, and tributes: but now it is come to be but a fort and caſtle of defence. But G
there continue ſtill in their entier and as flouriſhing ſtate as ever they were, the citie Hebata and
Oruros, unto which by the fortunate conduct of *Pompey* the Great, the limits and bounds of the
Romane Empire were extended; and it is from Zeugma 250 miles. Some writers make report,
that the river Euphrates was divided by a governour of Meſopotamia, and one arme thereof
brought to Gobaris, even in that place where wee ſaid it parted in twaine: which was done for
feare leaſt one day or other the river with his violent ſtreame ſhould endaunger the citie of Ba-
* Or rather, Nahal Nalca, i. the kings river. bylon. They affirme moreover, that the Aſſyrians generally called it * Armalchar, which ſignifieth a royall river. Vpon this new arme of the river aforeſaid, there ſtood ſometime Agrani, one
of the greateſt townes of that region, which the Perſians cauſed to be utterly raſed and de-
ſtroyed. H

As for the cittie of Babylon, the capitall citie of all the Chaldæan nations, for a long time carried a great name over all the world: in regard whereof, all the other parts of Meſopotamia and Aſſyria was named Babylonia: it contained within the walls 60 miles. The walles were 200 foot in height, and 50 thicke; reckoning to everie foot 3 fingers breadth more than our ordinarie meaſure. Through the mids of this goodly great citie, paſſeth the river Euphrates: a wonderfull peece of worke, if a man conſider both the one and the other. As yet to this day the temple of *Iupiter Belus* there ſtandeth entire. This prince was the firſt inventer of Aſtronomie. It is now growne into decay and lyeth waſt and unpeopled, by reaſon that Seleucia the cittie ſtandeth ſo neere it, which hath drawne from it all reſort and traffick: and was for that purpoſe built by *Nicator* within 40 myles of it, in the verie confluent where the new arme of Euphrates is brought I
by a ditch to meet with Tigris: notwithſtanding, ſurnamed it is Babylonia, a free ſtate at this day and ſubject to no perſon: howbeit they live after the lawes and manners of the Macedonians. And by report, in this citie there are 600000 cittizens. As for the walls thereof, by report, they do reſemble an Eagle ſpreading her wings: and for the ſoile, there is not a territorie in all the Eaſt parts comparable to it in fertilitie. The Parthians in deſpight againe of this citie, and for to doe the like by it, as ſometime was done to the old Babylon, built the citie Cteſiphon within three miles of it, in the tract called Chalonitis, even to diſpeople and impoveriſh it: which now at this preſent is the head citie of the kingdome. But when they could doe little or no good thereby to diſcredit the ſaid new Babylon, of late daies *Vologeſus* their king founded another citie hard by, K
called Vologeſo Certa. Moreover, other cities there are beſides in Meſopotamia, namely Hypparenum, a citie likewiſe of the Chaldæans, and ennobled for their learning as well as Babylon: ſituate upon the river Narragon, which gave the name unto that citie. Howbeit the Perſians cauſed this Hypparenum to be diſmantled, and the walls thereof to be demoliſhed. There be alſo in this tract, the Orchenes toward the South: from whence is come a third ſort of the Chaldæans, called Orcheni. Beeing paſt this region, you meet with the Notites, Orthophants, and Græciophants. *Nearchus* and *Oneſicratus*, who regiſtred the voyage of *Alexander* the Great into the Indians, report, That from the Perſian ſea to the citie of Babylon by the river Euphrates, is 412 miles. But the later and moderne writers, doe count from Seleucia to the Perſian gulfe, 490 miles. K. *Iuba* writeth, that from Babylon to Charax, is 175 miles. Some affirme moreover, L
that beyond Babylon, the river Euphrates maintaineth his entire courſe and keepeth one channell 87 miles, before that hee is divided into ſeverall braunches here and there; for to water the countrey: and that he holdeth on his courſe from his head to the ſea, for the ſpace of 1200 miles. This varietie of Authors as touching the meaſure, is the cauſe that a man may not ſo well reſolve and conclude thereof, conſidering that even the very Perſians agree not about the dimenſions of their Scœnes and Paraſanges, but have divers meaſures of them. Whereas the river Euphrates giveth over his owne channell, (which for the breadth thereof is a ſufficient munition to it ſelfe) and beginneth to part into divers braunches, which it doth about the marches and confines of Charax, in all that tract neere adjoyning, great daunger there is of the Attalæ, a theeviſh nation of the Arabians, who preſently ſet upon all paſſengers comming and going to and
fro. When ye are paſt this infamous and ſuſpected region, you ſhall enter into the countrey of M
the Schenites. As for the Arabians called Nomades, they occupie all the coaſts of the river Euphrates, as farre as to the deſerts of Syria: from which place we ſaid that he turned and tooke his way into the South, abandoning the deſerts of Palmyrene. To conclude, from the beginning and head of Meſopotamia, it is counted to Seleucia, if you paſſe upon the river Euphrates, 1125 miles;

A miles: and from the red sea, if you goe by the river Tigris, 320 miles: from Zeugma 527 miles: and to Zeugma from Seleucia in Syria upon the coast of our sea, is reckned 175 miles. And this is the very true and just latitude there, of the firme land betweene the two seas, to wit, the Persian gulfe, and the Syrian sea. As for the kingdome of Parthia, it may containe 944 miles. Finally, there is yet another towne of Mesopotamia upon the banke of Tigris, neere the place where the rivers meet in one, which they call Digba.

Chap. xxvii.

The river Tigris.

B MEet also it is and convenient, to say somewhat of the river Tigris. It beginneth in the land of Armenia the greater, issuing out of a great source, and evident to be seene in the verie plaine: the place beareth the name of Elongosine. The river it selfe so long as it runneth slow and softly, is named Diglito; but when it beginneth once to carrie a more forcible streame, it is called Tigris, for the swiftnesse thereof; which in the Medians language, betokeneth a shaft. It runneth into the lake Arethusa, which beareth up aflote all that is cast into it, and will suffer nothing to sinke: and the vapours that arise out thereof, carrie the sent of Nitre. In this lake there is but one kind of fish, and that entreth not into the channell of Tigris as it passeth through, no more than any fishes swim out of Tigris into the water of the lake. In his course and color both, he is unlike, and as he goeth may be discerned from the other: and when he is once past the lake C and encountreth the great mountaine Taurus, he looseth himselfe in a certaine cave and hole in the ground, and so runneth under the hill, untill on the other side thereof hee breaketh forth againe and appeareth in his likenesse, in a place which is called Zoroanda. That it is the same river, it is evident by this, that he carrieth through with him and sheweth in Zoroanda, whatsoever was cast into him before he hid himselfe in the cave beforesaid. After this second spring and rising of his, he entreth into another lake and runneth through it likewise, named Thospites, and once againe taketh his way under the earth through certaine blind gutters, and 25 miles beyond he putteth forth his head about Nymphæum. *Claudius Cæsar* reporteth, that in the country Arrhene, the river Tigris runneth so neere unto the river Arsania, that when they both swell and their waters are out, they joyne both their streames together, yet so, as their water is not inter-D mingled: for Arsanias being the lighter of the twaine, swimmeth and floteth over the other, for the space well-neer of 4 miles: but soone after, they part asunder, and Arsania turneth his course toward the river Euphrates, into which he entreth. But Tigris receiving into him certain goodly great rivers out of Armenia, to wit, Parthenis, Agnice, and Pharion, and so dividing the Arabians and Troeans from the Adiabenes, and by this meanes making as it were an Iland Mesopotamia beforesaid, after he hath passed by and viewed the mountaines of the Gordiæans neere unto Apamia a town of Mesene on this side Seleucia surnamed Babylonia 125 miles: dividing himselfe in two armes or channels, with the one he runneth Southward to Seleucia, watering as he goeth the countrey of Messene; and with the other windeth into the North: he goeth on the backe side of the said Mesene, and cutteth through the plaines of the Cauchians. Now when E these two braunches are reunited againe, the whole is called Pasitigris. After this, he taketh into him out of Media, the great river Coaspes: and so passing betweene Seleucia and Ctesiphon, as we have said, he falleth into the meeres and lakes of Chaldæa, which he furnisheth and replenisheth with water, for the compasse of threescore and ten miles: which done, he issueth forth againe, gushing out with a mightie great and large streame, and running along the towne Charax, on the right hand thereof, hee dischargeth himselfe into the Persian sea, carrying there a mouth ten miles over. Betweene the mouthes of these two rivers, Tigris and Euphrates, where they fall into the sea, were counted in old time 25 miles, or as some would have it, but seven: and yet both of them were navigable, and bare right great ships. But the Orcheniens & other neighbour inhabitants, long since turned the course of Euphrates aside to serve their owne turnes in F watering their fields, and stopped the ordinarie passage thereof, insomuch as they forced him to runne into Tigris, and not otherwise than in his channell to fall into the sea. The next country bordering upon Tigris, is called Parapotamia: in the marches therof is the citie Mesene, whereof we have spoken. The chiefe towne thereof is Dibitach: from thence you enter presently into the region Chalonitis joyning hard upon Ctesiphon, a rich countrey, beautified not onely with

rowes of date-trees, but also with olive, apple, and peare trees, and generally with all sorts of fruit. G
Vnto this countrey extendeth the mountaine Zagrus, comming along from out of Armenia, betweene the Medes and Adiabenes, above Parætacene and the realme of Persis. Chalcenitis is from Persis 480 miles distant. And some write, that going the streight, direct, and neerest way, it is so much and no more from the Caspian sea to Assyria. Betweene these countries and Mesene lyeth Sittacene, the same it is that Arbelitis and Palæstine. The townes of importance therin, are Sittace held by the Græcians situate toward the East, and Sabata: but on the West side, Antiochia, seated betweene the two rivers, Tigris and Tornadotus. In like manner Apamia, which *Antiochus* the king so called after his mothers name. This citie is environed as it were with the river Tigris, and divided with the river Archous that passeth through it. Somewhat lower than these countries, lyeth the region Susiane, wherein stood the auncient royall pallace and H
seat towne of the Persian KK. Susa, founded by *Darius* sonne of *Hystaspes*: and from Seleucia Babylonia, it is 450 miles distant: and as much from Ecbatana in Media, taking the way along the mountaine Charbanus. Vpon that braunch of the river Tigris that taketh his course Northward, standeth the towne Babytace: and from Susa it is 135 miles. The people of this countrey are the onely men in the world that hate gold: and in very truth get it they doe, and when they have it, they burie it sure enough within the ground, that it might serve for no use. Vpon the Susianes Eastward, joine the Cossæans, Brigands, and theeves generally all. Likewise the Mizæans, a free state and subject to no government, having under them 40 nations, all wild and living as they list. Above these quarters, you enter into the countreys of the Parthusians, Mardians, Saïtes, and Hyans, who confine upon high Persia, called Elemais, which joyneth to the maritime I
coasts of Persis, as is aboveseid. The citie of Susa is from the Persian sea 250 miles. On that side whereas the Armada of *Alexander* the Great came up the great river Pasitigris to Susa, there standeth a village upon the lake Chaldais, named Aphle: from which to Susa, is 65 miles and an halfe by water. The next that border upon the Susianes Eastward, are the Cossæans: and above the Cossæi Northward, lyeth Mesobatene under the hill Cambalidus, which is a braunch and dependant of the mountaine Caucasus: and from thence is the most easie and readie passage into the region Bactriana. The river Eulæus maketh a partition betweene the high countrey of Persis called Elimais, and Susiane. This river issueth out of the Medians countrey, and in the mids of his course looseth himselfe in the ground: but being once up again, he runneth through Mesobatene, and environeth the fort and castle of Susa, with the temple of *Diana*, which is had K
in great reverence and honour above all other temples in those parts: yea and the very river it selfe is in much request, and the water thereof ceremoniously regarded: in such wise, as the kings drinke of no other; and therefore they fetch it a great way into the countrey. And it receiveth into it the river Hedypnus, which commeth along the priviledged place whereinto the Persians use to retire for sanctuarie, and one more out of the Susianes countrey. A town there is planted neer unto it, called Magoa, 15 miles from Charax. Yet some there be, that would have this town to stand in the utmost marches of Susiana, even close unto the deserts and mountaines. Beneath the river Eubæus lieth Elimais, joyning unto Persis in the very maritime coast, 240 miles it is from the river Oroates to Charax. The townes in it, be Seleucia and Sosirate, both situate upon the hanging of the hill Casyrus. The flat coast and levell thereof which lieth before it, is as we L
have said before, no lesse daungerous and unaccessible than the Syrts, for quavemires, by reason of the great store of mud and sand together, which the rivers Brixia and Ortacea bring downe with them. Over and besides, the countrey Elimais is so fennie and standeth with water so wet, that there is no way through it to Persis, but a man must fetch a great circuit & compasse about it to come thereto. Moreover, much haunted it is and annoyed with serpents, which breed and come downe in those rivers: and as troublesome as the passage is all the countrey over, yet that part yeeldeth the worst advenues and is least frequented, which they call Characene, of the town Charax, which limiteth the kingdomes of Arabia: whereof we will speake anon more at large, after we have set downe the opinion of *M. Agrippa*, which hee hath delivered as touching these quarters: for he hath written, that Media, Parthia, and Persis, are bound on the East side with M
the river Indus; on the West, with Tigris; on the North part, with the two mountaines, Taurus and Caucasus: and on the South coast, with the red sea: also that they extend in length 1320 miles, and in breadth 840. Moreover, that Mesopotamia by it selfe alone, is enclosed Eastward with the river Tigris, and Westward with Euphrates; having on the North side the mountaine Taurus,

A Taurus, and on the South the Persian sea: lying out in length 800 miles, and in breadth 360. Now to returne unto Charax, the inmost towne within the Persian gulfe, from which Arabia called Eudæmon, *i.* happie, begins and runneth forth in length; situate it is upon a mount artificially reared by mans hands betweene the confluents of Tygris on the right hand, and Eulæus on the left: and yet notwithstanding it carrieth a pourprise or precinct of three miles compasse. Founded first it was by *Alexander* the great: who having drawne Coloners to inhabite it out of the kings citie Durine (which then was ruinate) and leaving there behind him those souldiours which were not fit for service, nor able to follow in the march, ordained, that this towne should be called Alexandria: and the territorie about it Pellæum, of that town where himselfe was born: and withall appointed, that it should be peopled onely with Macedonians. But this towne of his
B by him founded, was overthrown and destroied by the two rivers aforesaid. Afterwards king *Antiochus* the fift rebuilt it againe, and named it of himselfe, Antiochia. But when it was decaied a second time by these rivers, *Spasines* sonne of *Sogdonacus*, who held Arabia, bordering neere by as an absolute king, and not (as *Iuba* reporteth) as a duke or governour under *Alexander*, raised great wharfes, and opposed mightie dammes and causeies against those rivers, and so reedified the towne a third time. Which done, he called it after his owne name Charax of Spasines: and verily he fortified thus the site and foundation thereof, three miles in length, and little lesse in breadth. At the beginning it stood upon the sea coast, and from the water side not above ten stadia, and even from thence it hath certaine false bastard galleries: but by the report of *Iuba* in his time, 50 miles. Howbeit, at this day both the Arabian Embassadors, & also our merchants that
C come from thence, say it is from the sea shore 125 miles. In such sort, that it cannot be found in any place of the world again, where the earth hath gained more, nor in so short a time, of the water, by reason of the store of mud brought down with rivers. And the more marvell it is, that considering the sea floweth, and the tide riseth farre beyond this towne, yet those made grounds are not beaten backe, and carried away againe. In this very towne I am not ignorant, that *Dionysius* the latest of our moderne Geographers, was borne: whom *Augustus* the Emperor sent of purpose beforehand into the East countries to discover those parts, and record faithfully in writing whatsoever hee there found, for the better advertisement of his elder son, who was upon his voiage and expedition of Armenia, to warre against the Parthians and Arabians. Neither have I forgotten, that in my first entrance into this worke in hand, I made some protestation to follow
D those who had written of their owne countries, as men lightly most diligent and of best intelligences in that behalfe. Howbeit, in this place I chuse rather to follow our martiall captaines that have warred there, and report me also to king *Iuba*, who hath written certaine bookes to *C. Cæsar Caligula*, as touching the occurrences in the Arabian voiage.

Chap. xxviii.

Arabia, Nomades, Nabatæi, and Omani: Tylos and Ogyris two Islands.

ARabia commeth behind no countrey in the world, for largenesse and greatnesse especially, reaching out in length a mightie way. For it beginneth at the fall and descent of the
E mountaine Amanus overagainst Cilicia and Comagene, as we have beforesaid: where it is peopled with many nations brought from thence thither by *Tigranes* the great, to inhabit that quarter, and in old time descended naturally, and reached as farre as to our sea and the Ægyptian coast, as we have shewed: yea, and extendeth into the midland parts of Syria unto the mountain Libanus, where the hils reach up to the very clouds: upon which bound the Ramisians, then the Taraneans, and after them the Patami. As for Arabia it selfe, being like a demie Island, runneth out betweene two seas, the red and the Persian, by a certaine artificiall workmanship of Nature, framed according to Italie in likenesse of forme and bignesse: yea, and lieth along the sea coasts in manner of Italie. And more than that, it regardeth the same quarter and line of heaven, without any difference at all. This tract thereof, for the rich seat it hath, is named *Fælix, i.* Happie. The
F nations therein dwelling, from our sea coasts unto the deserts of Palmyreum, we have treated of alreadie. Therefore overpassing them, wee will discourse of the rest forward. Now then, the Nomades and those robbers that so lie upon the Chaldæans and trouble them, the people called Scenitæ, as we have beforesaid, doe confine upon. And even they also make no certaine place of abode and habitation, but are called Scenitæ, of their tabernacles and booths which they make of

of haire cloths, and encampe under them when and where they liſt. Being paſt them, you meet G
with the Nabatæans in the vale, who inhabite a towne there named Petra, little leſſe than two
miles large; environned with ſteepe mountaines round about, which cut off all the advenues to
it: and beſides, having a river running through the middeſt thereof. Diſtant it is from Gaza (a
towne ſituate upon our coaſt in Syria) 600 miles: and from the Perſian gulfe 122. And here at
this towne meet both the port high waies, to wit, the one which paſſengers travell to Palmyra in
Syria, and the other, wherein they goe from Gaza. Beyond Petra and the vale thereof, you enter
into the Omanes countrey: which reached ſometime as farre as to Carax, and inhabited two fa-
mous townes built by queene *Semiramis*, namely, Abeſanius, and Soractia. But now all is but a
wilderneſſe. Then come you to a towne named Forath, ſituate upon the river Paſitigris, and ſub-
ject to the king of the Caracins or Zarazins: to which towne there is much reſort from Petra, as H
to a ſhier towne: and from thence to Charax, they may paſſe with the tide when the water ebbeth,
for the ſpace of twelve miles. But they that come by water out of the Parthian kingdome, meet
with a village called Teredon, lower than the place where Euphrates and Tigris meet together
in one. Where the Chaldæans inhabite the left hand coaſt of the river, and the Nomades called
Scenitæ, the right. Some writers affirme, that as yee ſaile and row upon the river Tigris, ye paſſe
by two other townes diſtant farre aſunder: the one called Barbatia in times paſt, and afterwards
Thumata, which our merchants that trafficke in thoſe parts, avouch to be tenne daies ſaile from
Petra, and is under the king of the Characenes: and the other named Apamia, ſituate in the ve-
ry place where Euphrates the river ſo ſwelleth over his bankes, that he joineth with Tigris in one
confluent. And therfore the Apamians, at what time as the Parthians are about to make inrodes I
and invade their territorie, ſet open the ſluces, and breake up the wharfes and bankes that keepe
theſe two rivers aſunder, and ſo impeach their enterpriſe by the overflow and innundation of
the waters. Now being paſt Charax, we will diſcourſe of the other coaſts of Arabia, and namely
that which firſt was diſcovered and declared by *Epiphanes*. And to begin with the place where
ſometime the mouth of Euphrates was. When you are once paſt it, you meet with a river of ſalt
brackiſh water, and the Promontorie or cape Chaldonum: where the ſea is more like a deepe
pit or whirlepoole than a ſea, for 50 miles. Vpon this coaſt you find the river Achana, and be-
yond it, deſerts for 100 miles, untill you come to the Iſland Ichara. Then ſheweth it ſelfe the gulfe
or arme of the ſea named Capeus, upon which inhabite the Gaulopes and Chateni. Beyond
them another creeke called Gerraicus, and the towne Gerræ upon it, five miles large: and forti- K
fied with turrets made of great huge ſtones ſquared, of ſalt minerall. Fiftie miles from the ſea ſide
is the region Attene: and overagainſt it the Iſland Tylos, as many miles from the ſhore, with a
towne in it, bearing the name of the Iſland, much frequented by merchants for the plentie of
pearles that there bee ſold: and not farre from it there is another ſomewhat leſſe, not paſt twelve
miles from the cape of the foreſaid Tylos. Beyond theſe there are diſcovered by report certaine
great Iſlands, but as yet they have not ben landed upon by our merchants. As for this laſt Iſland,
it containeth as they ſay 112 miles and an halfe in circuit, and is farre from Perſis; but no acceſſe
there is unto it, but onely by one narrow gutter or channell. Then ſheweth it ſelfe the Iſland Af-
gilia. And in theſe parts likewiſe are other nations, namely, the Nocheti, Zurachi, Borgodi, Ca-
taræi, and Nomades: and withall the river Cynos. Beyond that, as king *Iuba* ſaith, there is no L
more diſcovered upon this ſea of that ſide, by reaſon of the daungerous rockes therein. And I
marvell much that hee hath made no mention at all of the towne Batraſabe in the Omanians
countrey, ne yet of Omana, which the auncient Geographers have held to be an haven of great
importance in the kingdome of Carmania. *Item*, hee ſaith not a word of Omne and Athanæ,
which our merchants report to bee at this day two famous mart townes, much frequented by
thoſe that trafficke from the Perſian gulfe. Beyond the river Cains, as king *Iuba* writeth, there is
an hill, which ſeemeth all ſcorched and burnt. Paſt which, you enter into the countrey of the E-
pimaranites: and anone after into the region of the Ichthyophagi: and paſt them there is diſco-
vered a deſert Iſland, and the Bathymians countrey. And ſo forward, the mountaines Eblitæi are
diſcovered, and the Iſland Omœnus, the haven Machorbæ, the Iſlands Etaxalos, Onchobrice, M
and the people called Chadæi. Many other Iſlands alſo of no account, and nameleſſe: but of
importance, Iſura, Rhinnea; and one other very neere thereto, wherein are ſtanding certaine co-
lumnes or pillers of ſtone engraven with unknowne characters and letters. A little beyond, the
port-towne Gobœa, and the deſert unpeopled Iſlands Bragæ. The nation of the Thaludæans:

the

A the region Dabanegoris :the mountaine Orsa with an haven under it : the gulfe or arme of the sea called Duatus, with many Islands therein. Also the mountaine Tricoryphus : the countrey Cardalena, the Islands Solanidæ and Capina. Soon after you fall upon other Islands of the Ichthyophagi: and after them the people called Glarians. The strond called Hammæum, wherein are golden mines. The region Canauna. The people Apitami and Gasani. The Island Deuadæ, with the fountaine Goralus. Then come you to the Garphets countrey :the Islands Aleu & Amnamethu. Beyond which are the people called Darræ, the Island Chelonitis, and many other of the Ichthyophagi. The Isle Eodanda which lieth desert, and Basage, besides many other that belong to the Sabæans. For rivers, you have Thamar and Amnon, and in them the Islands Dolicæ, wherein bee the fountaines Daulotes and Dora. Islands besides, to wit, Pteros, Labaris, Covoris
B and Sambracate, with a towne so named also in the firme land. On the South side many Islands there be, but the greatest of them all is Camari. Then have you the river Mysecros, the haven Leupas, and the Sabæans called Scenitæ, for that they live under tabernacles and tents. Moreover, many other Islands. The cheefest mart or town of merchandise in those parts is Acila, where the merchants use to embarke for their voiage into India. Then followeth the region Amithoscutia, and Damnia. The Mizians, both the greater and the lesse: the Drimutians and Macæ. A Promontorie of theirs is overagainst Carmania, & distant from it 50 miles. A wonderous thing is reported to have been there done, and that is this: that *Numenus* lord deputie under king *Antiochus*, over Mesena, and generall of his armie, defeited the navie of the Persians in sea fight, and the same day with the opportunitie of the tide returned to land again, and gave their horsemen
C an overthrow to it: whereupon, in memoriall of a two-fold victorie in one day atchieved, he erected two triumphant trophæes, the one in honour of *Iupiter*, and the other of *Neptune*. Far within the deepe sea there lieth another Island called Ogyris, distant from the continent 125 miles, and containing in circuit 112, much renowmed for the sepulchre of king *Erythra*, who there was enterred. Another likewise there is of no lesse account, called Dioscoridu, lying in the sea Azanium, and is from Syagrum, the utmost point or cape of the maine, 280 miles. But to returne to the Continent: there remaine yet not spoken of, the Antarides toward the South, as you turne to the mountaines, which continue for seven daies journey over: then these nations, Larendanes, Catabanes, and Gebanites: who have many townes, but the greatest are Nagia and Tamna, with 65 churches or temples within it, whereby a man may know how great it is. From thence you
D come to a Promontorie: from which to the continent of the Troglodites it is 50 miles. And in those quarters remaine the Toanes, Acchitæ, Chatramotitæ, Tomabei, Antidalei, Lexianæ, Agrei, Cerbani; and Sabæi, of all the Arabians for their store of frank-incense most famous, as also for the largenesse of their countrey, reaching from sea to sea. Their townes situate upon the coast of the red sea, are Marane, Marma, Cocolia and Sabatra. Within the firme land are these townes, Nascus, Cardava, Carnus, and Tomala, where the Sabæans keepe their faires and markets for to vent & sell their commodities of incense, myrrhe, and such drugs and spices. One part of them are the Atramites, whose capitall citie Sobotale, hath within the walls thereof 60 temples. But the roiall citie and cheefe seat of the whole kingdome is Nariaba: situate upon a gulfe or arme of the sea that reacheth into the land 94 miles, full of Islands, beautified with sweet odo-
E riferous trees. Vpon the Atramites within the maine land joine the Minæi: but the Elamites inhabite the maritime coast, where there standeth a cittie also called Elamitum. To them the Cagulates lie close: and their head towne is Siby, which the Greekes name Apate. Then come you to the Arsicodani and Vadei, with a great towne: and the Barasei: beyond whom is Lichemia, and the Island Sygaros, into which no dogs will come willingly: and if any be put there, they will never lin wandering about the shore untill they die. In the fartheſt part of the aboveſaid gulfe are the Leanites, whereof the gulfe tooke the name Leanites. Their head citie and roiall seat is Agra: but the cittie Leana, or as others would have it, Ælana, is situate upon the very gulfe. And hereupon our writers have called that arme of the sea Ælaniticum, others Ælenaticum; *Artemidorus*, Aleniticum; and king *Iuba*, Læniticum. Arabia is reported to take in circuit
F from Charax to Leana, 4870 myles: but *Iuba* thinketh it somewhat lesse than 4000. Wideſt it is in the North parts betweene the townes Herous and Chrace. Now it remaineth that wee speake of other parts within the midland thereof. Vpon the Nabatæi, the Thimaneans doe border, after the description of the old Geographers: but at this day, the Tavenes, Suellenes, and Saracenes: their principall towne is Arra, wherein is the greatest trafficke and

reſort of merchants. Moreover, the Hemnates and Analites, whoſe townes are Domada and G
Erage: alſo the Thamuſians, with their towne Badanatha: the Carreans, and their towne
Chariati: the Achoali, and a citie of theirs Phoda. Furthermore, the Minæi, deſcended as ſome
thinke from *Minos* king of Crete: whoſe citie Charmæi hath 14 miles in compaſſe. Other towns
likewiſe be there ſtanding afarre off, and namely, Mariaba, Baramalacum, a towne ywis of no
meane account: likewiſe Carnon, and Ramei, who are thought to come from *Rhadamanthus*
the brother of *Minos*. Over and beſides, the Homerites, with their towne Maſſala: the Hamirei,
Gedranitæ, Anapræ, Iliſanitæ, Bochilitæ, Sammei, and Amathei; with theſe towns, Neſſa and
Cenneſſeri. The Zamanenes, with theſe townes, Saiace, Scantate, and Bacaſmani: the towne
Rhiphearma, which in the Arabian tongue ſignifieth Barley: alſo the Antei, Rapi, Gyrei, and
Marhatæi. The Helmadenes, with the towne Ebode. The Agarturi in the mountaines, having a H
towne 20 miles about, wherein is a fountaine called Emiſchabales, that is as much to ſay, as The
camels town. Ampelone, a colonie of the Mileſians: the town Actrida: and the people Calingij,
whoſe towne is named Mariaba, as much to ſay as, Lords of all. Townes moreover, Pallon and
Murannimal, neere unto a river, by which men thinke that Euphrates ſpringeth and breaketh
forth above ground. Other nations beſides, namely, Agrei and Ammonij: with a towne, Athe-
næ: and the Caurarani, which ſignifieth, Moſt rich in droves of cattaile. Then the Caranites,
Cæſanes, and Choanes. There were ſometime alſo certaine townes in Arabia, held by Greekes,
and namely, Arethuſa, Lariſſa, and Chalcis, which all in the end came to ruine and were de-
ſtroyed in divers and ſundrie warres. The only man among the Romans untill this day that war-
red in thoſe parts, was *Ælius Gallus* a knight of Rome. As for *Caius Cæſar* the ſonne of *Augu-* I
ſtus the Emperour, he did but looke onely into Arabia, and no more: but *Gallus* waſted townes
that were not once named by Authors that wrate before, namely, Egra, Anneſtum, Elſa, Ma-
guſum, Tamuracum, Laberia, and the above-named Marieba, which was in circuit ſixe miles a-
bout: likewiſe Caripeta, the fartheſt that he went unto. As for all other matters, he made report
unto the Senate of Rome, according as he had found and diſcovered in thoſe parts, to wit, that
the Nomades live of milke and veniſon: the reſt of the Arabians preſſe wine, like as the Indians
doe, out of dates; and oyle of Seſama, a kind of graine or pulſe in thoſe countries. That the Ho-
merites country of all others is moſt populous and repleniſhed with people: the Minæans have
plenteous and fruitfull fields, full of date trees and goodly hortyards ſtored with all ſorts of fruit;
but their principall riches lyeth in cattaile. The Cembanes and Arians are good warriours and K
martiall men, but the Chatramotites that way excell all the reſt. The Caræans have the largeſt
territories and moſt fertile fields for corne. As for the Sabæans, their wealth ſtandeth moſt upon
their woods and trees, that bring forth the ſweet gummes of frankincenſe and myrrhe: alſo in
mines of gold: having water at commaundement to refreſh their lands, and plentie beſides of
honey and waxe. As concerning the ſweet odours and ſpices that come from thence, wee will
ſpeake thereof in a ſeverall booke by it ſelfe. The Arabians weare mitres or turbants ordinarily
upon their heads, or elſe go with their haire long and never cut it: as for their beards, them they
ſhave, ſave only on their upper lip, which they let grow ſtill: and yet ſome there be of them that
ſuffer their beards to grow long and never cut them. But this one thing I marveile much at, that
being ſuch an infinite number of nations as they be, the one halfe of them live by robberie and L
theeving, howſoever the other live by trafficke and merchandiſe. Take them generally, they be
exceeding rich; for with them the Romans and Parthians leave exceeding ſummes of gold and
ſilver, for the commodities out of their woods and ſeas which they ſell unto them; but they
themſelves buy nothing of them againe. Now will wee ſpeake of the other coaſt oppoſite unto
Arabia. *Timoſthenes* hath ſet downe, that the whole gulfe or arme of the ſea called Red, was from
one end to the other foure daies ſailing: and from ſide to ſide, two dayes: that the ſtreights of
the firth were ſeven miles over. But *Eratoſthenes* ſaith, that taking the meaſure at the very mouth,
it is every way 1300 miles.

Chap. xxix.

The gulfe of the Red Sea: likewiſe of the Trogloditick and Æthiopian Seas.

Artemidorus avoucheth, that the Red Sea toward Arabia ſide, is 1400 miles and fiftie: but
on the coaſt of the Troglodites 1182, untill you come to the citie Ptolemais. Moſt Geo-
graphers have ſet downe the breadth thereof to be 462 miles: and that the mouth of it,

where

A where it openeth wide, full against sun-rising in winter, [*i.* Southwest] some say, is 7 miles broad; and others 12. As for the positure and situation thereof, thus it lyeth: Beyond the braunch or arme thereof called Ælaniticus, there is another creeke which the Arabians call Æant, upon which standeth the towne Heroon. In old time there was a citie called Cambisu, betweene the Nelians and Marchandians, into which the sicke and feeble soldiers of our armie were conveyed, as to a place of retreat and repose. Beyond which, you enter into the land of Tyra: and there is the port Daneon to be seene, from which *Sesostris* a king of Ægypt, was the first that imagined and devised to draw one arme of it with a channell navigable, into Nilus, in that part where it runneth to the place called Delta, and that for 62 miles space, which is betweene the said river and the red sea. This enterprise of his was followed by *Darius* king of the Persians: yea and by

B *Ptolomæus* king of Ægypt, second of that name, who made a channell 100 foot over, and thirtie deepe, for 37 miles in length and an halfe, even to the bitter fountaines. But this desigme was interrupted and the ditch went no farther, for fear of a general deluge and inundation: for found it was, that the red sea lay above the land of Ægypt three cubits. Some alledge not that to be the cause, but this, namely, That if the sea were let into Nilus, the sweet water thereof (whereof they drinke onely and of none else) should be corrupted thereby and marred. Yet nevertheless, although this worke went not forward, the way is well beaten all the countrey over betweene the Red sea and the Ægyptian, for trafficke: and three severall ordinarie waies there are betweene: the one from Pelusium over the sands; where, unles there be reeds set up pitched in the ground to give guidance and direction, there would no path be found, for ever and anon the wind blow-

C eth the sand over the tracts of mens feet and covereth all. A second beginneth two miles beyond the mountaine Casius, which after 60 miles commeth into the former Pelusiacke way. (Vpon this great rode way, the Arabians called Autei, doe inhabite.) The third taketh his head and beginning at Gereum, which they call Adipson, and holdeth on through the said Arabians, and is 60 miles neerer way, but full of craggie hills and altogether without waters. All these foresaid wayes lead to the citie Arsinoë, built upon the gulfe Charandra by *Ptolomæus Philadelphus*, and bare his sisters name: and verily hee was the first that discovered those parts, and searched narrowly into the region Troglodyticum: and the river that passeth by Arsinoë, hee called Ptolomæus. Within a little of this place, there is a little towne named Ænum; for which, some there be that write, Philotera. Beyond them, are the Azarei: Arabians of the wilder sort and halfe Tro-

D glodites, by reason they marrie their wives from out of the Troglodites countrey. Beeing past these coasts, you shall find the Ilands Sapyrene and Scytala: and within a little thereof, deserts untill you come to Myos-hormos, where there is a fountaine called Taduos, the mount Eos, the Island Lambe, many havens besides, and Berenice a towne, bearing the name of the mother to K. *Ptolomæus Philadelphus*, to which there is a way lying from Coptos, as we have said: and last of all, the Arabians called Autei, and Gnebadei. Now it remaineth to speake of the region Troglodyticum, which the auncient men of old time called Michoë, and others Midoë: and therein standeth the mountaine Pentedactylos. Vpon the coast of this countrey, there lye to be seene certaine Islands called Stenæ-deiræ; and others no fewer in number, named Halonnesi: also Cardamine, and Topazos, which Iland gave the name to the precious stone called the Topaze.

E Then come you to an arme of the sea betweene two lands, full of petie Islands, whereof that which is called Mareu, is well served with water sufficient: another, Eratonos, is altogither drie and unprovided of fresh water. These Islands tooke name of two captaines and governors there under the king. Withinforth farther into the firme land, inhabite the Candei, whome they call Ophiophagi, because they are wont to feed on serpents: and in truth there is not another countrey that breeds them more than it. King *Iuba*, who seemeth to have taken great paines in the diligent perusing and discoverie of these parts, omitted in all this tract (unlesse there be some fault and defect in them that copied out his first originall) to speake of a second citie named Berenice, with the addition of Panchrysos; as also of a third called Epidires, and yet renowmed it is in regard of the place whereupon it is seated: for situate it is upon a knap of land bearing far into

F the Red sea, even where the mouth of it is not above 4 miles and an halfe, from Arabia. Within the prospect of this tract there is the Island Cytis, which also bringeth forth good store of the Topaze stones. Beyond this quarter, nothing but woods and forrests, where king *Ptolomæus* surnamed *Philadelpus* built the citie Ptolemais, onely for to chase and hunt the Elephant, neere to the lake Monoleus; and in regard of his game there, he named it Epi-theras. This is the verie

countrey

countrey mentioned by me in the ſecond booke: wherein for 45 dayes before mid-ſummer or G
the entrance of the ſunne into Cancer, and as many after, by the ſixt houre of the day, that is to ſay, about noone, no ſhadowes are to be ſeene: which being once paſt, all the day after they fall into the South. As for other dayes of the yeere beſides, they ſhew into the North: whereas in that citie Berenice which wee mentioned firſt, upon the very day onely of the Sun-ſteed, at the ſixt houre or noon-tide, the ſhadowes are cleane gone and none to be ſeene (for otherwiſe there is no alteration at all to be obſerved throughout the yeere) for the ſpace of 600 miles all about Ptolemais. A ſtrange and notable thing worth obſervation, that it ſhould be ſo but in one hour all the yeere long, and a matter that gave great light and direction to the world, yea and miniſtred occaſion to a ſingular invention and ſubtill concluſion: for *Eratoſthenes* upon this undoubted argument and demonſtration of the diverſitie of ſhadowes, ſet in hand hereupon to take H
the meaſure of the whole globe of the earth, and put it downe in writing to all poſteritie. Beyond this citie Ptolemais, the ſea chaungeth his name and is called Azanium; over which the cape ſheweth it ſelfe, which ſome have written by the name of Hiſpalus: alſo, anon appeareth the lake Mandalum, and in it the Iſland Colocaſitis: but in the deepe ſea many more, wherein are taken many tortoiſes. Farther upon this coaſt is the towne Suchæ, and then you may diſcover in the ſea the Iſland Daphnis, and the citie Aduliton, built by certaine Ægyptian ſlaves who ran away from their maſters and tooke no leave: and verily this is the greateſt and moſt frequented mart towne of all the Troglodites countrey, and put the Ægyptians to them: and it is from Ptolemais 5 daies ſailing. Thither is brought great ſtore of Ivorie, or the Elephants tooth, and of the horne of the Rhinoceros: there may a man have plentie of the Sea-horſe hides, of tor- I
toiſe ſhelles, of little monkies or marmoſets: there alſo a man may be ſped with bondſlaves. A little beyond are the Æthiopians, called Aroteres: alſo the Iſlands named Aliæa: and beſides them other iſlands, namely, Bacchias, Antibacchias, and Stratonis: being paſt them, there is a gulfe in the coaſt of Æthiopia, as yet not diſcovered or knowne by any name: a thing that may make us marveile much, conſidering that our merchants ſearch into farther corners than ſo. Alſo a promontorie, wherein there is a fountaine of freſh water named Curios, much deſired of the ſailers that paſſe that way, and in great reſpect for the refreſhing that it yeeldeth unto them: beyond it, is the harbor or port of Iſis, diſtant from the town of the Adulites aboveſaid, 10 daies rowing with ores: and thither is the Troglodites myrrhe brought and there laid up. Before this haven, there lye in the ſea two Iſlands, named Pſeudopylæ: and as many farther within, called K
Pylæ: in the one of them be certaine pillars of ſtones, engraven with ſtraunge and unknowne letters. When you are paſt this haven, you come to an arme of the ſea called Abalites: within it is the Iſland Diodori, and other lying deſert and unpeopled. Alſo along the continent, there is much wilderneſſe: but being paſt them, you come to the towne Gaza: the promontorie alſo and port Moſſylites, unto which ſtore of cynamon and canell is brought. Thus farre marched king *Seſoſtris* with his armie. Some writers make mention of one towne more in Æthiopia beyond all this, upon the ſea ſide, called Baradaza. King *Iuba* would have the Atlantick ſea to begin at the promontorie or cape above-named, Moſſylites: on which ſea (as he ſaith) a man may ſaile very well with a Weſt-northweſt wind, by the coaſts of his kingdoms of Mauritania or Marocco, as farre as to the coaſts of Gibraltar called Gades: and ſure he ſpeaketh ſo confidently ther- L
of, as I wil not altogither diſcredit his reſolution in this behalfe. From a promontorie of the Indians called Lepteacra, and by others Drepanum, unto the Iſle of Malchu, he ſaith plainly, that by a ſtraight and direct courſe it is 15 hundred miles, and never reckon thoſe parts that are burnt with the ſunne. From thence to a place called Sceneos, he affirmeth it is 225 miles: and from it to the Iſland Sadanum, 150 miles: and thus by this meanes hee concludeth, that in all, to the open and known ſea, it is 1885 miles. But all other writers beſides him were of opinion, that there could not poſſibly be any ſailing upon it, for the exceeding heat of the ſunne. Over and beſides, the Arabians named Aſſitæ, doe much harme and annoyance from out of the Iſlands which they hold, unto merchants that trafficke that way: for theſe Arabians, according as their name doth import, couple bottles made of good oxe leather, two by two together, and going upon M
them with eaſe as if it were a bridge under them, ſcoure the ſeas, and ſhooting their empoyſoned arrowes, practiſe pyracie, to the great loſſe and miſchiefe of merchants and ſailers. The ſame *Iuba* writeth moreover, that there be certaine people of the Troglodites, named Therothoes, for their hunting of wild beaſts, of their exceeding and wonderfull ſwiftneſſe in chaſing of Deere

upon

A upon land: as the Ichthyophagi for coursing of fish in the sea, swimming as naturally as if they were water creatures. Moreover, hee nameth other nations in those parts, as the Bargeni, Zageres, Chalybes, Saxinæ, Syreces, Daremes and Domazanes. Futthermore, hee affirmeth, that the people inhabiting along the sides of Nilus from Syene unto Meroë, are not Æthyopians, but Arabians, who for to seeke fresh water, approched Nilus, and there dwelt: as also that the citie of the Sunne, which we said before in the description of Ægypt, standeth not far from Memphis, was first founded and built by the Arabians. Contrariwise, other Geographers there bee, who affirme, that the farther side or banke of Nilus is no part of Æthyopia, and they lay it as a dependant annexed to Affrick. But be it as will be, I will not greatly busie my head thereabout, but suffer every man to abound in his owne sence, and have his own way: only I will content my
B selfe with this, to set downe the townes on both sides thereof, in that order as they are declared unto mee. And first to begin with that side toward Arabia: after you are past Syene, enter you shall upon the countrey of the Catadupi, and so forward into the land of the Syenites. Wherein these townes stand in order as followeth: Tacompson, which some have called Thatire, Aranium Sesanium, Sandura, Nasandum, Anadoma, Cumara, Beda and Bochiana, Leuphithorga, Tantarene, Machindira, Noa, Gophoa, Gystatæ, Megeda, Lea, Rhemnia, Nupsia, Direa, Patara, Bagada, Dumana, Rhadata, wherein a golden cat is worshipped as a god. Boron in the midland part of the continent, and Mallos, the next towne to Meroë. Thus hath *Bion* digested and set them downe. But king *Iuba* hath raunged them otherwise in this manner. First, Megatichos, a towne situate upon a hill betweene Ægypt and Æthyopia, which the Arabians use to call Myr-
C son: next to it Tacompson: then Aranium, Sesanium, Pide, Mamuda, and Corambis; neere unto it a fountaine of liquid Bitumen: Hammodara, Prosda, Parenta, Mama, Thessara, Gallæ, Zoton, Graucome, Emeum, Pidibotæ, Hebdomecontacometæ, and the Nomades, who ordinarily are encamped under tents and pavilions. Cyste, Pemma, Gadagale, Palois, Primmis, Nupsis, Daselis, Patis, Gambrenes, Magases, Segasmala, Cranda, Denna, Cadeuma, Thena, Batha, Alana, Macum, Scammos, and Gora within an Island. Beyond which, Abala, Androcalis, Seres, Mallos and Agoce. And thus much on the side of Arabia. Now for Affricke side, they are in this wise reckoned. First, Tacompsos, according to the others name, or a parcell rather of the former: then, Magora, Sea, Edosa, Pelenaria, Pyndis, Maguса, Bauma, Linitima, Spyntuma, Sydopta, Gensoa, Pindicitora, Eugo, Orsima, Suasa, Maunia, Rhuma, Vrbubuma, Mulona, which town the
D Greeks were wont to call, Hypaton: Pagoargas, Zanones, & there begin the Elephants to come in, Mamblia, Berresa, Cetuma. There was moreover a town sometime named Epis, situate against Meroë: but rased it was and utterly destroied before that *Bion* wrote his Geographie. See what citties and towns of name were recorded in times past to have ben in those parts, untill you come to the Isle Meroë. And yet at this day there is neither sticke nor stone to be found of any of them in a manner, on neither side. Only deserts and a vast wildernesse in steed of them, by report made unto *Nero* the Emperour by the Prætorian souldiours, sent thither from him under the leading of a Tribune or Colonell, to discover those quarters of Æthyopia, and to relate accordingly: at what time as amongst other his designes, that prince intended an expedition with his armie against the Æthyopians. And yet before his time, even in the daies of *Augustus Cæsar* of happie
E memorie, the Romanes pierced thither with a power of armed men under the conduct of *Pub. Petronius*, a knight of Rome, and governour of Ægypt, deputed by the said Emperour. Where he forced by assault and conquered all those townes in Æthyopia which he then found standing, in this order following: namely, Pselcis, Primis, Abaccis, Phthuris, Cambusis, Attena, Stadisis, where the river Nilus runneth downe with such a mightie fall, that with the noise thereof the inhabitants there by, loose their hearing and become deafe. Besides these hee woon also and sacked Napata. And albeit he marched forward still a great way into the countrey, even 870 myles beyond Syene, yet this Romane armie of his laid not all wast in those parts, and left the countrie so desert as now it is. No, no: It was the Ægyptians warres and not the Romanes that gave the wast to Æthyopia: and albeit sometimes it woon and otherwhiles lost; one time bare the scepter
F and ruled, another time underwent the yoke, and were subdued: yet was it of great name in the world and puissant, untill the reigne of king *Memnon*, who ruled at the time of the Trojane war: yea, and Syria was subject unto it, as also the coast of our sea in king *Cepheus* daies, as appeareth by the fabulous tales that goe as touching *Andromeda*. Semblably, the Geographers varie and disagree much about the measure and dimension of Æthyopia. And first of all others, *Dalion*, al-

beit he passed farre beyond Meroë: after him, *Aristocreon*, *Bion*, and *Basilis*. As for *Simonides* (the younger and the later writer) had sojourned in Meroë five yeeres, when he wrot of Æthyopia. For *Timosthenes* the Admirall of *Ptolomæus Philadelphus* his navie, hath left in record, that from Syene to Meroë is 60 daies journey, without any other particularizing of the measure by miles. But *Eratosthenes* precisely noteth, that it is 625 miles. *Artemidorus* but 600. *Sebosus* affirmeth, That from the frontiers of Ægypt it is 1675 miles. From whence, the last rehearsed writers count forward but 1270. But all this difference and dispute about this point, is lately determined & ended by the report of those travellers whom *Nero* sent of purpose to discover those countries: and they made relation of the truth upon their certaine knowledge, that it is 874 miles from Syene in this manner particularly by journies. Namely, from the said Syene to Hiera-Sycaminon 54 miles: from thence to Tama 75 miles. From Tama to the Euonymites countrey, the first of all the Æthyopians, 120. Forward to Acina 54. To Pitara 25. To Tergedum 106 miles. Where by the way it is to be noted, that in the middest of this tract lieth the Island Gagandus: where they began first to have a sight of the birds called Parrats: and beyond another Island in the same way which is called Artigula, they might see monkies and marmosets: but being once beyond Tergedum, they met with the beasts Cynocephali. From thence to Napata 80 miles: this is the only little towne among all the rest beforenamed. From which to the Island Meroë is 360 miles. They reported moreover, that about Meroë (& not before) the grasse and hearbes appeared fresh and greene; yea, and the woods shewed somewhat in comparison of all the way besides; and that they espied the tracts of Elephants and Rhinocerotes where they had gone. As for the towne it selfe Meroë, they said it was within the Island from the very entrie therof 70 miles: & that just by, there was another Island called Tatu, which yeelded a bay or haven to land at for them that took the arme and channell of Nilus on the right hand. As for the building within Meroë, there were but few houses in it: that the Isle was subject unto a ladie or queene named *Candace*, a name that for many yeeres alreadie went from one queene to another successively. Within this towne there is the temple of great holinesse and devotion in the honour of *Iupiter Hammon*: and in all that tract many other chappels. Finally, so long as the Æthyopians swaied the scepter and reigned, this Island was much renowmed and very famous. For by report, they were wont to furnish the Æthyopian king with armed men 250000, & to maintain of Artisanes 400000. Last of all there have been counted 45 kings of the Æthyopians; and so it is reported at this day.

Chap. xxx.

The manifold, strange, and wonderfull formes and shapes of men.

All Æthyopia in generall was in old time called Ætheria: afterwards Atlantia: and finally of *Vulcanes* sonne *Æthiops*, it tooke the name Æthyopia. No wonder it is, that about the coasts thereof there be found both men and beasts of strange and monstrous shapes, considering the agilitie of the Sunnes fierie heat, so strong and powerfull in those countries, which is able to frame bodies artificially of sundrie proportions, and to imprint and grave in them divers formes. Certes, reported it is, that far within the countrey Eastward there are a kind of people without any nose at all on their face, having their visage all plain and flat. Others again without any upper lip, and some tongueless. Moreover, there is a kind of them that want a mouth, framed apart from their nosethrils: and at one and the same hole, and no more taketh in breath, receiveth drinke by drawing it in with an oaten straw, yea, and after the same manner feed themselves with the graines of oates, growing of the owne accord without mans labour and tillage for their onely food. And others there be, who in steed of speech and words, make signes, as well with nodding their heads, as moving their other members. There are also among them, that before the time of *Ptolomæus Lathyrus* king of Ægypt, knew no use at all of fire. Furthermore, writers there bee, who have reported, that in the countrey neere unto the meeres and marishes from whence Nilus issueth, there inhabite those little dwarfes called Pygmei. But to returne againe to the utmost coasts of Æthyopia, where we left: there is a continuall raunge and course of mountaines all red like fire, as if they were ever burning. Moreover, beyond Meroë there is a countrey lying above the Troglodites and the red sea: where, after you be three daies journey from Napata toward the coast of the said red sea, you shall find that in most places they save raine water for their ordinarie use to drinke, and otherwise: all the countrey betweene is very plenteous and full

of

A of gold mines. All beyond this region is inhabited by the Arabuli, a people also of Æthyopia. As for the Megabares, whom some have named Adiabares, they lie against Meroë, and have a towne bearing the name of *Apollo*. Among them are certain Nomades encamping under tents and tabernacles, who live of Elephants flesh. Iust against them in a part of Affricke are the long living Macrobians. Againe, being past the Megabarenes, you come unto the Memnones & Daveli: and 20 daies journey from them, to the Critenses. Beyond whom you meet with the Dochi, and the Gymnetes who are ever naked. Soone after you shall find the Anderæ, Mathitæ, Messagebes, Hipporeæ, who be all over blacke, and therfore they colour and paint their bodies with a kind of red chalke or rudle called Rubrica. But upon the coast of Affricke are the Medimni. Beyond whom you shal come to another sort of Nomades living under tents, who feed of no other
B thing but the milke of certaine creatures headed like dogs, called Cynocephali: also to the Olabi and Syrbotæ, who are reported to be eight cubites high. Moreover, *Aristocreon* saith, That on Libya side, five daies journey from Meroë, there is a towne called Tole: and 12 daies journey from thence, there standeth Esar, a towne built by the Ægyptians, who fled thither to avoid the cruelties and tyrannie of king *Psammeticus*. And reported it is, that the Ægyptians held it for 300 yeeres. Also, that the same fugitives founded the towne Daron on the contrarie side in the coast of Arabia. But that which *Aristocreon* nameth Esar, *Bion* called Sapa, and saith withall, that the very word Sapa signifieth in the Æthyopian language, strangers or aliens come from other parts. Hee affirmeth besides, that their capitall citie is within an Iland, Sembobitis, and that Sai within Arabia, is the third citie of that nation. Now, betweene the mountaines and the river Ni-
C lus, are the Symbarians and the Phalanges: but upon the very hils live the Asachæ, who have many other nations under them: and they are by report seven daies journey from the sea. They live upon the venison of Elephants flesh, which they use commonly to hunt and chase. As for the Iland within Nilus, of the Semberrites, it is subject to a queene. And eight daies journey from thence lieth the country of the Æthyopians, named Nubæi. Their cheefe town Tenupsis is seated upon the river Nilus. Beyond the Nubians, you enter upon the countrey of the Sambri: where all the foure-footed beasts, yea, even the very Elephants, are without eares. Vpon the coast of Affricke iahabite the Ptœambati and Prœmphanæ: who have a dog for their king, and him they obey, according to the signs which he maketh by moving the parts of his bodie, which they take to be his commaundements, and religiously they doe observe them. Their head citie is Au-
D rusipi, farre distant from Nilus. Beyond them are the Achisarmi, Phaligœ, Marigeri, and Casamarri. *Bion* affirmeth, That beyond Psembobitis, there bee other townes in the Ilands of that coast, toward Meroë, all the way as you passe for 20 daies journey. The towne of the next Iland is Semberritarum, under the queene: likewise another called Asar. Also there is a second Iland having in it the towne Daron: a third which they call Medœ, wherein standeth the towne Asel: and a fourth named Garode, like as the towne also. Then along the bankes of Nilus are many townes, to wit, Navos, Modunda, Andabis, Setundum, Colligat, Secande, Navectabe, Cumi, Agrospi, Ægipa, Candrogari, Araba, and Summara. The region above Sirbithim, where the mountaines doe end, is reported to have upon the sea coast certaine Æthyopians called Nisicastes and Nisites, that is to say, men with three or four eies apeece: not for that they are so eied in-
E deed, but becaule they are excellent archers, & have a speciall good eie in aiming at their mark, which lightly they will not misse. *Bion* affirmeth moreover, That from that clime of the heaven which beareth above the greater Syrtes, & bendeth toward the South Ocean sea, they be called Dalion, to wit, the Cisorians and Longopores, who drinke and use raine water only. And beyond Oecalices for five daies journie, the Vsibalks, Ifuelians, Pharuseans, Valians and Cispians. Al the rest are nothing but deserts not inhabited. But then he telleth fabulous and incredible tales of those countries. Namely, that Westward there are people called Nigrœ, whose king hath but one eie, and that in the mids of his forehead. Also he talketh of the Agriophagi, who live most of panthers and lions flesh. Likewise of the Pomphagi, who eat all things whatsoever. Moreover, of the Anthropophagi, that feed of mans flesh. Furthermore, of the Cynamolgi, who have
F heads like dogs. Over and besides, the Artabatites who wander and goe up and downe in the forrests like fourefooted savage beasts. Beyond whom, as hee saith, bee the Hesperij, and Peroesi, who, as we said before, were planted in the confines of Mauritania. In certain parts also of Æthyopia the people live of locusts onely, which they pouder with salt, and hang up in smoke to harden, for their yeerly provision, and these live not above 40 yeers at the most. Finally, *Agrippa* saith

that all Æthyopia, and take the land with it of *Prester Iehan* bordering upon the red sea, contai- G
neth in length 2170 miles: & in breadth, together with the higher Ægypt, 1291. Some Geogra-
phers have taken the breadth in this maner. From Meroë to Sirbitum, 12 daies journie upon Ni-
lus: from thence to the countrie of the Davillians another 12, and from them to the Æthyopian
Ocean 6 daies. But in general al writers in a maner do resolve upon this, that between the Ocean
and Meroë it is 725 miles: and from thence to Syene, as much as we have set down before. As for
the positure and situation of Æthiopia, it lieth Southeast and Southwest. In the Meridian South
parts thereof, there be great woods of Ebene especially, alwaies greene. Toward the mids of this
region, there is a mightie high mountain looking over the sea, that burneth continually, which
the Greeks call Theon-ochema, that is to say, the chariot of the gods: from the which it is coun-
Cap. de bonne Esperance. ted foure daies journey by sea to the promontorie or cape called Hesperion-Ceras, which confi- H
neth upon Africke, neere to the Hesperian Æthiopians. Some writers hold, that this tract is
beautified with pretie little hils, and those pleasantly clad and garnished with shadowie groves,
wherein the Ægipanes and Satyres doe converse.

Chap. xxxi. ❧ *The Ilands in the Aethiopian sea.*

Ephorus, *Eudoxus*, and *Timosthenes*, do all agree in this, that there be very many Ilands in all
that sea. *Clitarchus* witnesseth, that report was made to *Alexander* the Great, of one above
the rest, which was so rich and well monyed, that for an ordinarie horse the inhabitants
would not sticke to give a talent of gold: also of another, wherein was found a sacred hill ador-
ned with a goodly wood upon it, where the trees distilled and dropped sweet water of a wonder- I
full odoriferous smell. Moreover, full against the Persian gulfe, lyeth the Iland named Cerne,
opposite unto Æthiopia, but how large it is, or how farre off it beareth into the sea from the con-
tinent, is not certainly knowne: this onely is reported, that the Æthiopians and none but they,
are the inhabitants thereof. *Ephorus* writeth, that they who would saile thither from the red sea,
are not able for extreame heat to passe beyond certaine columnes or pillars, for so they call the
little Ilands there. Howbeit *Polybius* avoucheth, that this Iland Cerne where it lyeth in the ut-
most coast of the Mauritanian sea over-against the mountaine Atlas, is but 8 stadia from the
land. And *Cornelius Nepos* affirmeth, that likewise it is not above a mile from the land, overagainst
Carthage: and besides, that it is not above two miles in circuit. There is mention made also by
Authors, of another Iland before the said mountaine Atlas, named also thereupon Atlantis. K
And five daies sailing from it, appeare the deserts of the Æthiopian Hesperians, together with
the foresaid cape, which we named Hesperion-Ceras, where the coasts of the land begin first to
turne about their forefront to wind Westward, and regard the Atlanticke sea. Iust over-against
this cape, as *Xenophon Lampsacenus* reporteth, lye the Ilands called Gorgates, where somtimes
the Gorgones kept their habitation, and two daies sailing they are thought to be from the firme
land. *Hanno*, a great commaunder and generall of the Carthaginians, landed there with an ar-
mie: who made this report from thence, That the women were all over their bodies hairie: as
for the men, he could not catch one of them, so swift they were of foot that they escaped out of
all sight: but he flead two of these Gorgone women and brought away their skinnes, which for a
testimoniall of his beeing there, and for a wonder to posteritie, hee hung up in *Iunoes* temple, L
where they were seene, untill Carthage was woon and sacked. Beyond these Isles, there are by re-
port, two more discovered, by the name of Hesperides. But so uncertaine are all the intelligen-
ces delivered concerning these parts, that *Statius Sebosus* affirmeth, that it is 40 good daies sai-
ling from the Ilands of these Gorgones along the coast of Atlas, unto the Isles of the Hespe-
rides; and from thence to Hesperion-Ceras, but one. As little resolution and certaintie there
is, as touching the Ilands of Mauritania. In this onely they all jumpe and accord, that king *Juba*
discovered some few of them over-against the Autolotes, in which hee meant and purposed to
die Gætulian purple.

Chap. xxxii.

❧ *Of the Ilands Fortunatæ, or Canarie.* M

SOme Authors there be who thinke, that the Ilands Fortunatæ, and certaine others besides
them, are beyond the Autolotes: among whome, the same *Sebosus* above rehearsed was so
bold, as to speake of their distances: and namely, that the Iland Iunonia is from Gades
750 miles:

A 750 miles: and that from it Westward, the Isles Pluvialia and Capraria, are as much. Also that in the Iland Pluvialia there is no fresh water, but onely that which they have by showres of rain. He saith moreover, that from them to the Fortunate Islands are 250 miles; which lye 8 myles from the coast of Mauritania to the left hand, called The coast of the sunne, or Valley of the sunne, for that it is like a valley or hollow levell floore of earth, whereupon also it is called Planaria, resembling an even plaine. And in very truth, this valley containeth in circuit 300 miles: wherein are trees to be seene that grow up in height to 144 foot. As for the Islands named Fortunatæ, *Iuba* learned thus much by diligent inquisition, that they lie from the South neere to the West 625 miles from the Ilands Purpurariæ, where they die purple: so as to come thither, a man must saile 250 miles above the West, and then for 75 miles more bend his course Eastward. He
B saith moreover, that the first of these Islands is called Ombrion, wherein are to be seene no token or shew at all of houses. Also that among the mountains, it hath a lake or meere: and trees resembling the plant Ferula, out of which they presse water: that which issueth out of the blacke trees of that kind, is bitter; but out of the whiter sort, sweet and potable. As for a second, he writeth that it is named Iunonia, wherin there is one little house or chappel made of stone: beyond it, but neere by, there is a third of the same name, but lesse than the other: and then you come to a fourth called Capraria, full of great Lizards. Within a kenning from these, lyeth the Island Nivaria, which tooke this name of the snow that lieth there continually; and besides, it is full of mists and fogges. The next to it and the last of all, is Canaria, so called by reason of a number of dogges of mightie bignesse; of which king *Iuba* brought away two: and in this Island there are
C some markes remaining of buildings which give testimonie that sometime it was inhabited and peopled. And as all these Ilands generally doe abound plentifully in fruitfull trees, and flying foules of all sorts: so this above the rest named Canaria, is replenished with rowes of date trees that beare aboundance of dates, and likewise with pine trees that yeeld store of pine nuts. Furthermore he affirmeth, that there is great plentie of honey in it: that the rivers therein are well stored with fish, and the Sturgeon especially: in which there groweth the red Papyrus as ordinarily as in Nilus. Howbeit in conclusion he saith, that these Ilands are much annoyed with great whales and such monsters of the sea, that daily are cast upon the shore, which lye above ground and putrifie like carrion. Thus having at large gone through the description of the globe of the earth, as well without as within, it remaineth now to knit up briefly with the measure and com-
D passe of the seas.

Chap. xxxiii.

A summarie of the earth, digested according to the dimensions thereof.

Polybius saith, that from the streights of Gilbraltar, unto the very mouth and firth of Mœotis, it is found by a direct and streight course to be 3437 miles and an halfe. Begin there againe, and hold on a right course Eastward to Sicilie, it is 1260 miles and an halfe. From thence forward to the Iland Creta, 375 miles: forward to Rhodes, 146 miles and an halfe: to the Chelidoniæ Ilands as much, and so to Cyprus 325 miles: from whence to Seleucia Pieria in Sy-
E ria, 115 miles. Which particulars being laid togither, make by computation the grosse summe of 2340 miles. Howbeit, *Agrippa* counteth 3440 miles for all this distance above rehearsed, beginning at the streights of Gilbraltar abovelaid, and carrying the length streight forward to the gulfe of Issa. In which reckoning of his, I wot not whether there be an errour in the number, forasmuch as the same writer hath set downe from the streight of Messine in Sicilie to Alexandria in Ægypt, 1250 miles. As for the whole circuit that may be comprehending therein, all the gulfes and creekes before-named, from the same point where we first began, as far as to the lake Mœotis, is 15600 miles. *Artemidorus* addeth thereto 756 miles. And the same Geographer writeth, that take the lake Mœotis to the rest, all commeth to 17390 miles. Lo, what the measure is of the seas taken by Philosophers and learned men, without armour and weapon in hand; of
F men I say, who have not feared to hazard themselves boldly and provoke Fortune, in traversing the seas so farre off. Now are we to compare respectively the greatnes of ech part of the world in severall: notwithstanding that I shall find much adoe and difficultie enough therin, considering the disagreement of authors in that behalfe. But most fitly and easily shall this appeare which we seek for, if we join longitude & latitude togither. According to which prescript rule to begin with

Europe, it may wel contain in largenes 8148 miles. Affrick (taking the middle and mean computation between them all that have set it down) containeth in length 3748 miles. As for the bredth of so much as is known and inhabited, in no place where it is widest exceedeth it 250 miles. True it is, that *Agrippa* would have it to contain 910 miles in breadth, beginning at the bounds of Cyrene, and so comprehending in this measure the deserts thereof as farre as to the Garamants, so far as is known and discovered, and then the whole measure collected into one generall summe, amounteth to 4608 miles. As for Asia, confessed it is and resolved upon by all Geographers, that in length it carrieth 63750 miles: and verily in bredth, (if you account from the Æthiopian sea to Alexandria situate upon Nilus, so as your measure run through Meroë and Syrene) it taketh 1875 miles: whereby it appeareth evidently, that Europe is little wanting of halfe as bigge againe as Asia: and the same Europa, is twise as much againe as all Africa and a sixt part over. Reduce now all these summes together, it will be found cleere, that Europe is a third part of the whole earth, and an eight portion over and somewhat more: Asia a fourth part, with an over-deale of 14: and Africke a fifth part, with an over-plus of a sixtieth portion. To this calculation, we will set to, as it were to boot, one subtill devise and invention more of the Greeks, which sheweth their singular wit (to the end we should omit nothing that may serve our turne in this Geographie of ours) and that is this: After that the positure and site of everie region is knowne and set downe, how a man may likewise come to the knowledge what societie and agreement there is betweene the one and the other, either by length of daies and nights, by the shadow at noone-day, or by the equalitie of climates of the world. To bring this about effectually, I must part and digest the whole earth into certaine sections or even portions, answerable to those in heaven; (whereof there be verie many) which our Astronomers and Mathematicians call Circles, but the Greekes, Parallels.

G H I

Chap. xxxiiii.

The division of the earth into Climates or lines Parallele, and equall shadowes.

FOr to make an equall partition of the world, begin we will at the Meridionall Indians, and go directly as farre as Arabia, and the inhabitants of the red sea. Vnder this climate are comprised the Gedrosians, Persians, Carmanes, and Elimæans: Parthyene, Aria, Susiane, Mesopotamia, Seleucia surnamed Babylonia, Arabia so farre as Petræ inclusively, Cœle-Syria, and Pelusium in Ægypt: the low countries, which are called the tract of Alexandria: the maritime coasts of Affricke: all the townes of Cyrenaica, Thapsus, Adrumetum, Clupea, Carthage, Vtica, both Hippoes, Numidia, both realmes of Mauritania, the Atlanticke sea, and *Hercules* pillars. In all the circumference of this climate and parallele, at noone-tide upon an Æquinoctiall day, the style in the diall which they call Gnomon 7 foot long, casteth a shadow not above foure foot. The longest night or day in this climate, is 14 houres: and contrariwise the shortest, ten. The second circle or parallele line, beginneth at the Indians Occidentall, and passeth through the mids of Parthia, Persepolis, the hithermost parts of Persis (in respect of Rome) the hither coast of Arabia, Iudæa, and the borders neere unto the mountaine Libanus. Vnder the same are conteined also Babylon, Idumæa, Samaria, Hierusalem, Ascalon, Ioppe, Cæsarea, Phœnice, Ptolemais, Sydon, Tyrus, Berytrus, Botrys, Tripolis, Byblus, Antiochia, Laodicea, Seleucia, the sea coasts of Cilicia, Cyprus, the South part of Candie, Lilybœum in Sicilia, the North parts of Affricke and Numidia. The Gnomon in a diall upon the Æquinoctiall day 35 foot of length, maketh a shadow 24 foot long. The longest day or night, is 14 houres Æquinoctiall, and the fifth part of an houre. The third circle beginneth at the Indians next unto the mountaine Imaus, and goeth by the Caspian gates or streights hard by Media, Cataonia, Cappadocia, Taurus, Amanus, Issus, the Cilician streights, Soli, Tarsus, Cyprus, Pisidia, Syde in Pamphilia, Lycaonia, Patara in Lycia, Xanthus, Caunus, Rhodus, Coüs, Halicarnassus, Gnidus, Doris, Chius, Delus, the mids of the Cyclades, Gytthium, Malea, Argos, Laconia, Elis, Olympia, Messene, Peloponnesus, Syracusa, Catine, the mids of Sicily, the South part of Sardinia, Cardei, and Gades. In this clime the Gnomon of 100 inches, yeeldeth a shadow of 77 inches. The longest day hath Æquinoctiall hours 14 and an halfe, with a thirtith part over. Vnder the fourth circle or parallele lye they that are on the other side of Imaus, the South parts of Cappadocia, Galatia, Mysia, Sardis,

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A Sardis, Smyrna, Sipylus, the mountaine Tmolus in Lydia, Caria, Ionia, Trallis, Colophon, Epheſus, Miletus, Samos, Chios, the Icarian ſea, the Iſlands Cyclades lying Northward, Athens, Megara, Corinth, Sicyon, Achæa, Patræ, Iſthmos, Epirus, the North parts of Sicilie, *Narbonenſis Gallia toward the Eaſt, the maritime parts of Spaine beyond new Carthage, and ſo into the Weſt. To a Gnomon of 21 foot, the ſhadowes anſwere of 17 foot. The longeſt day is 14 Æquinoctiall houres, and two third parts of an houre. The 5 diviſion conteineth under it, from the entrance of the Caſpian ſea, Bactra, Iberia, Armenia, Myſia, Phrygia, Helleſpontus, Troas, Tenedus, Abydus, Scepſis, Ilium, the hill Ida, Cyzicum, Lampſacum, Sinope, Aniſum, Heraclea in Pontus, Paphlagonia, Lemnus, Imbrus, Thaſus, Caſſandria, Theſſalia, Macedonia, Lariſſa, Amphipolis, Theſſalonice, Pella, Edeſſa, Beræa, Pharſaliæ, Caryſtum, Eubœa, Bœo-

B tia, Chalcis, Delphi, Acarnania, Ætolia, Apollonia, Brundiſium, Tarentum, Thurij, Locri, Rhegium, Lucani, Naples, Puteoli, the Tuſcan ſea, Corſica, the Baleare Iſlands, the middle of Spain. A Gnomon of 7 foot, giveth ſhadow 6 foot. The longeſt day is 15 Æquinoctiall houres. The ſixt parallele compriſeth the citie of Rome, and conteineth withall the Caſpian nations, Caucaſus, the North parts of Armenia, Apollonia upon Rhindacus, Nicomedia, Nicæa, Chalcedon, Bizantium, Lyſimachia, Cherrhoneſus, the gulfe Melane, Abdera, Samothracia, Maronea, Ænus, Beſſica, the midland parts of Thracia, Pœonia, the Illyrians, Dyrrhachium, Canuſium, the utmoſt coaſts of Apulia, Campania, Hetruria, Piſæ, Luna, Luca, Genua, Liguria, Antipolis, Maſſilia, Narbon, Tarracon, the middle of Spaine called Tarraconenſis, and ſo through Luſitania. To a Gnomon of 9 foot, the ſhadow is anſwerable 8 foot. The longeſt day hath 15 Æquinoctiall

C houres, and the ninth part of an houre, or the fifth as *Nigidius* is of opinion. The 7 diviſion beginneth at the other coaſt of the Caſpian ſea, and falleth upon Callatis, Boſphorus, Boryſthenes, Tomos, the backe parts of Thracia, the Tribals countrey, the reſt of Illyricum, the Adriaticke ſea, Aquileia, Altinum, Venice, Viceria, Patavium, Verona, Cremona, Ravenna, Ancona, Picenum, Marſi, Peligni, Sabini, Vmbria, Ariminum, Bononia, Placentia, Mediolanum, and all beyond Apenninum: alſo over the Alpes, Aquitane in Gaule, Vienna, Pyrenæum, and Celtiberia. The Gnomon of 35 foot, caſteth a ſhadow 36 foot in length; yet ſo, as in ſome part of the Venetian territorie, the ſhadow is equall to the Gnomon. The longeſt day is 15 Æquinoctiall houres, and three fift parts of an houre. Hitherto have we reported the labours in this point of auncient Geographers, and what they have reported. But the moſt diligent and exacteſt mo-

D derne writers that followed, have aſſigned the reſt of the earth not as yet ſpecified, to three other ſections or climates. The firſt, from Tanais through the lake Mœotis and the Sarmatians, unto Boryſthenes, and ſo by the Dakes and a part of Germanie, conteining therein Fraunce, and the coaſts of the Ocean, where the day is ſixteene houres long. A ſecond, through the Hyperboreans and Britaine, where the day is 17 hours long. Laſt of all is the Scythian parallele, from the Rhiphean hills into Thule: wherein (as we ſaid) it is day and night continually by turnes (for ſixe moneths.) The ſame writers have ſet down two parallele circles, before thoſe points where the other began, and which we ſet downe. The one through the Iſlands Meroë and Ptolemais upon the red ſea, built for the hunting of Elephants, where the longeſt daies are but 12 houres and an halfe: the ſecond paſſing through Syrene in Ægypt, where the day hath 13 houres. And

E the ſame Authours have put to every one of the other circles, even to the very laſt, halfe an houre more to the daies length, than the old Geographers.

Thus much of the Earth.



THE

*Languedoc.

THE SEVENTH BOOKE OF THE HISTORIE OF NATVRE,

WRITTEN BY C. PLINIVS SECVNDVS.

The Proëme.

THus as you see, we have in the former bookes sufficiently treated of the Vniversall world, of the Lands, Regions, Nations, Seas, Ilands, and renowmed Cities therein contained. It remaineth now to discourse of the living creatures comprised within the same, and their natures: a point doubtlesse that would require as deepe a speculation, as any part else thereof whatsoever, if so be the spirit and mind of man were able to comprehend and compasse all things in the world. And to make a good entrance into this treatise and historie, me thinkes of right wee ought to begin at Man, for whose sake it should seeme that Nature made and produced all other creatures besides: though this great favour of hers, so bountifull and beneficiall in that respect, hath cost them full deere. In so much, as it is hard to judge, whether in so doing she hath done the part of a kind mother, or a hard and cruell step-dame. For first and formost, of all other living creatures, man she hath brought forth all naked, and cloathed him with the good and riches of others. To all the rest, given she hath sufficient to clad them everie one according to their kind: as namely, shells, cods, hard hides, prickes, shagge, bristles, haire, downe feathers, quils, skailes, and fleeces of wooll. The verie trunkes and stemmes of trees and plants, shee hath defended with barke and rind, yea and the same sometime double, against the iniuries both of heat and cold: man alone, poore wretch, she hath laid all naked upon the bare earth, even on his birth-day, to cry and wraule presently from the very first houre that he is borne into this world: in such sort, as among so many living creatures, there is none subiect to shed teares and weepe like him. And verily to no babe or infant is it given once to laugh before he be fortie daies old, and that is counted verie early and with the soonest. Moreover, so soone as he is entred in this manner to enioy the light of the sunne, see how he is immediatly tyed and bound fast, and hath no member at libertie; a thing that is not practised upon the young whelpes of any beast among us, be he never so wild. The child of man thus untowardly borne, and who another day is to rule and commaund all other, loe how he lyeth bound hand and foot, weeping and crying, and beginning his life with miserie, as if he were to make amends and satisfaction by his punishment unto Nature, for this onely fault and trespasse, that he is borne alive. O follie of all follies, ever to thinke (considering this simple beginning of ours) that we were sent into this world to live in pride and carrie our head aloft! The first hope that wee conceive of our strength, the first gift that Time affourdeth us, maketh us no better yet than four-footed beasts. How long is it ere we can goe alone? how long before we can prattle and speake, feed our selves, and chew our meat strongly? what a while continueth the mould and crowne of our heads to beat and pant, before our braine is well setled; the undoubted marke and token that bewrayeth our exceeding great weakenesse above all other creatures? What should I say of the infirmities and sicknesses that soone seaze upon our feeble bodies? what need I speake of so many medicines and remedies devised against these maladies: besides the new diseases that come everie day, able to checke and frustrate all our provision of Physicke whatsoever? As for all other living creatures, there is not one, but by a secret instinct of nature knoweth his owne good, and whereto he is made able: some make use of their swift feet, others of their slight wings: some are strong of limme; others are apt to swimme, and practise the same: man onely knoweth nothing unlesse hee be taught; he can neither speake, nor goe, nor eat, otherwise than he is trained to it: and to be short, apt and good at nothing he is naturally, but to pule and crie. And hereupon it is, that some have been of this opinion,

A *opinion, That better it had been, and simply best for a man, never to have been borne, or else speedily to die. None but we doe sorrow and waile, none but we are given to excesse and superfluitie infinitely in every thing, and shew the same in every member that we have. Who but we againe are ambitious and vainglorious? who but we are covetous and greedie of gathering good? wee and none but we desire to live long and never to die, are superstitious, carefull of our sepulture and buriall, yea, and what shall betide us when we are gone. Mans life is most fraile of all others, and in least securitie he liveth: no creature lusteth more after every thing than he: none feareth like unto him, and is more troubled and amazed in his fright: and if he be set once upon anger, none more raging and wood than he. To conclude, all other living creatures live orderly and well, after their owne kind: we see them flocke and gather together, and readie to make head and stand against all others of a contrarie kind: the lyons as fell*
B *and savage as they be, fight not one with another: serpents sting not serpents, nor bite one another with their venimous teeth: nay the verie monsters and huge fishes of the sea, warre not amongst themselves in their owne kind: but beleeve me, Man at mans hand receiveth most harme and mischiefe.*

Chap. i.

The straunge and wondrous shapes of sundrie nations.

C IN our Cosmographie and reports of nations and countreys, wee have spoken in generall of all mankind, spred over the face of the whole earth: neither is it our purpose at this present to decipher particularly all their customes and manners of life, which were a difficult enterprise, considering how infinit they be, and as many in manner as there be societies and assemblies of men. Howbeit I think it good, not to over-passe all, but to make relation of some things concerning those people especially, who live fartheſt remote from our seas; among whome, I doubt not but I shall find such matter, as to most men will seeme both prodigious and incredible. And verily, who ever beleeved that the Æthiopians had been so blacke, before he saw them with his eye: nay what is it, I pray you, that seemeth not a wonder at the first sight? How many things are judged impossible before they are seene done and effected? And certes, to speake a truth, The power and majestie of Nature, in every particular action of hers and small things, seemeth incredible, if a man consider the same severally, and enter not into a generall conceit of her
D wholly as she is. For to say nothing of the painted peacocks feathers, of the sundrie spots of tygres, luzernes, and panthars, of the variable colours and markes of so many creatures besides: let us come to one only point, which to speake of seemeth but small, but being deeply weighed and considered, is a matter of exceeding great regard, and that is, The varietie of mens speech; so many tongues and divers languages are amongst them in the world, that one straunger to another seemeth well-neere to be no man at all. But come to view and marke the varietie that appeareth in our face and visage, albeit there be not past ten parts or litle more therein, see how among so many thousands as we are, you shall not find any two persons, who are not distinct in countenance and different one from another: a thing that no artificer nor painter (be he never so cunning and his craftsmaster every way) can perform, but in a few pictures, and take what heed
E he can with all his curious affectation. And yet thus much must I advertise the readers of this mine historie by the way, that I will not pawne my credit for many things that herein I shall deliver, nor bind them to beleeve all I write as touching straunge and forrein nations: referre them rather I will to mine authors, whome in all points (more doubtfull than the rest) I will cite and alledge, whom they may beleeve if they list: only let them not thinke much to follow the Greeke writers, who from time to time in this behalfe have been more diligent in penning, and more curious in searching after antiquities.

Chap. ii.

F

Of the Scythians, and the diversitie of other nations.

THat there bee Scythians, yea, and many kinds of them that feed ordinarily of mans flesh, wee have shewed alreadie in our former discourses. A report haply that would bee thought incredible, if wee did not consider and thinke withall, how in the very middle and heart of the world, even in Sicilie and Italie, here hard by, there have beene such monsters of men,

men, namely, the Cyclopes and Lystrigones: nay, if wee were not credibly enformed, that even G
of late daies, and goe no farther than to the other side of the Alpes, there be those that kill men
for sacrifice after the maner of those Scythian people; and that wants not much of chewing and
eating their flesh. Moreover, neere unto those Scythians that inhabite toward the pole Articke,
and not farre from that climate which is under the very rising of the Northeast wind, and about
that famous cave or hole out of which that wind is said to issue, which place they call Ges-cli-
thron, [*i.* the cloisture or key of the earth] the Arimaspians by report doe dwell, who as wee have
said before, are knowne by this marke, for having one eie onely in the mids of their forehead: and
these maintaine warre ordinarily about the mettall mines of gold, especially with griffons, a kind
of wild beasts that flie, and use to fetch gold out of the veines of those mines (as commonly it is
received:) which savage beasts (as many authors have recorded, and namely *Herodotus* and *Ari-* H
steas the Proconnesian, two writers of greatest name) strive as eagerly to keepe and hold those
golden mines, as the Arimaspians to disseize them thereof, and to get away the gold from them.
Above those, are other Scythians called Anthropophagi, where is a country named Abarimon,
within a certaine vale of the mountaine Imaus, wherein are found savage and wild men, living
and conversing usually among the brute beasts, who have their feet growing backward, and tur-
ned behind the calves of their legs, howbeit they run most swiftly. These kind of men can endure
to live in no other aire nor in any other clime els than their owne, which is the reason that they
cannot be drawne to come unto other kings that border upon them, nor could be brought unto
Alexander the great: as *Beton* hath reported, the marshall of that princes camp, and who also put
downe his geasts and journies in writing. The former Anthropophagi or eaters of mans flesh I
whom we have placed about the North pole, tenne daies journey by land above the river Bory-
sthenes, use to drinke out of the sculs of mens heads, and to weare the scalpes, haire and all, in
steed of mandellions or stomachers before their breasts, according as *Isagenus* the Niccan wit-
nesseth. The same writer affirmeth moreover, That in Albanie there bee a sort of people borne
with eies like owles, whereof the sight is fire red: who from their childhood are grey headed, and
can see better by night than day. He reporteth also, that tenne daies journie beyond Borysthenes,
the Sauromates never eat but one meale of meat in three daies. *Crates* of Pergamus saith, That
in Hellespont about Parium there was a kind of men (whom he nameth Ophiogenes) that if one
were stung with a serpent, with touching onely, will ease the paine: and if they doe but lay their
hands upon the wound, are wont to draw forth all the venome out of the bodie. And *Varro* testifi- K
eth, that even at this day there be some there who warish and cure the stinging of serpents with
their spittle, but there are but few such as he saith. *Agatharcides* writeth, that in Affricke the Psyl-
lians (so called of king *Psyllus*, from whose race they were descended, and whose sepulchre or
tombe is at this day present to bee seene in a part of the greater Syrtes) could doe the like. These
men had naturally that in their owne bodies, which like a deadly bane and poyson would kill all
serpents: for the very aire and sent that breathed from them, was able to stupifie and strike them
starke dead. And by this meanes they used to trie the chastitie and honestie of their wives. For so
soone as they were delivered of children, their manner was to expose and present the silie babes
new borne, unto the most fell and cruell serpents they could find: for if they were not right but
gotten in adultery, the said serpents would not avoid & flie from them. This nation verily in gene- L
rall hath ben defeated, & killed up in manner all, by the Nasamones, who now inhabit those parts
wherein they dwelt: howbeit, a kind remaineth still of them, descended from those that made shift
away and fled, or else were not present at the said bloudie battell, but there are very few of them
at this day left. The Marsians in Italie at this present continue with the like naturall vertue against
serpents: whom being reputed for to have descended from ladie *Circes* sonne, the people in this
regard doe highly esteeme, and are verily perswaded, that they have in them the same faculkie by
kind. And what great wonder is this, considering that all men carrie about them that which is
poyson to serpents: for if it be true that is reported, they will no better abide the touching with
mans spittle, than scalding water cast upon them: but if it happen to light within their chawes, or
get into their mouth, especially if it come from a man that is fasting, it is present death. Beyond M
those Nasamones, and their neighbours confining upon them (the Machlyes) there bee found
ordinarily Hermaphrodites, called Androgyni, of a double nature, and resembling both sexes,
male and female, who have carnall knowledge one of another interchangeably by turns, as *Cal-*
liphanes doth report. *Aristotle* saith moreover, that on the right side of their breast they have a lit-

tle

A tle teat or nipple like a man, but on the left ſide they have a full pap or dug like a woman. In the ſame Affricke, both *Iſogonus* and *Nymphodorus* doe avouch, there be certain houſes and families of ſorcerers: who, if they chance to bleſſe, praiſe, and ſpeak good words, bewitch preſently withall; inſomuch as ſheepe therewith die, trees wither, and infants pine and winder away. *Iſogonus* addeth furthermore, That ſuch like there are among the Triballians and Illyrians, who with their very eieſight can witch, yea, and kill thoſe whom they looke wiſtly upon any long time, eſpecially if they be angred, and that their eies bewray their anger: and more ſubject to this daunger bee men growne, than children under foureteene yeeres of age. This alſo is in them more notable and to be obſerved, that in either eie they have two ſights or apples. Of this kind and propertie, as *Apollonides* mine authour ſaith, there be certain women in Scythia named Bithyæ. *Phylarchus*
B witneſſeth, That in Pontus alſo the whole race of the Thibians, and many others beſides, have the ſame qualitie, and can do the like: & known they are (ſaith he) by theſe markes, In one of their eies they have two ſights, in the other the print or reſemblance of an horſe. Hee reporteth beſides of theſe kind of men, that they will never ſink or drown in the water, be they charged never ſomuch with weightie & heavie apparel. Not unlike to theſe there are a ſort of people in Æthyopia called Pharnaces, whoſe ſweat if it chaunce to touch a mans bodie, preſently he falleth into a phthiſick or conſumption of the lungs. And *Cicero* a Romane writer here among us teſtifieth, that generally all women that have ſuch double apples in their eies, have a venomous ſight, and doe hurt therewith. See how Nature, having engraffed naturally in ſome men this unkind appetite (like wild beaſts) to feed commonly upon the bowels and fleſh of men, hath taken delight alſo & pleaſure to give them inbred poyſons in their whole bodie, yea, and venome in the very eies of ſome;
C that there ſhould be no naughtineſſe in the whole world againe, but the ſame might be found in man. Not farre from Rome cittie, within the territorie of the Faliſci, there bee ſome few houſes and families called Hirpix, which at their ſolemne yeerely ſacrifice celebrated by them in the honour of *Apollo* upon the mount Soracte, walke upon the pile of wood as it is on fire, in great jolitie, and never a whit are burnt withall. For which cauſe ordained it is by an expreſſe areſt or act of the Senate, that they ſhould be priviledged, and have immunitie of warfare and all other ſervices whatſoever. Some men there bee that have certaine members and parts of their bodies naturally working ſtraunge and miraculous effects, and in ſome caſes medicinable. As for example, king *Pyrrhus*, whoſe great toa of his right foot was good for them that had big, ſwelled, or in-
D durate ſplenes, if he did but touch the parties diſeaſed, with that toa. And they ſay moreover, that when all the reſt of his bodie was burned (after the manner) in the funerall fire, that great toa the fire had no power to conſume: ſo, that it was beſtowed in a little caſe for the nones, and hung up in the temple for an holy relique. But principally above all other countries, India and the whole tract of Æthyopia is full of theſe ſtraunge and miraculous things. And firſt and formoſt, the beaſts bred in India be exceeding big, as it may appeare by their dogs, which for proportion are much greater than thoſe in other parts. And trees be growing there to that talneſſe, that a man cannot ſhoot a ſhaft over them. The reaſon hereof is the goodneſſe and fatneſſe of the ground, the temperate conſtitution of the aire, and the abundance of water: which is the cauſe alſo that under one fig tree [beleeve it that liſt] there may certaine troupes and ſquadrons of horſemen
E ſtand in covert, ſhaded with the boughs. And as for reeds, they be of ſuch a length, that between every joint they will yeeld ſufficient to make boats able to receive three men apeece, for to row therein at eaſe. There are to bee ſeene many men there above five cubites tall: never are they known once to ſpit: troubled they are not with paine in the head, toothach, or greeſe of the eies; and ſeldome or never complaine they of any ſorance in other parts of the bodie, ſo hardie are they, and of ſo ſtrong a conſtitution through the moderate heat of the Sunne. Over and beſides, among the Indians be certaine Philoſophers, whom they call Gymnoſophiſts, who from Sunne riſing to the ſetting thereof are able to endure all the day long, looking full againſt the Sunne, without winking or once moving their eies: & from morning to night can abide to ſtand ſometimes upon one leg, and ſometimes upon the other in the ſand, as ſcalding hot as it is. Vpon a
F certaine mountaine named Milus, there be men whoſe feet grow the tother way backward, and of either foot they have eight toes, as *Megaſthenes* doth report. And in many other hils of that countrey, there is a kind of men with heads like dogs, clad all over with the skins of wild beaſts, who in lieu of ſpeech uſe to barke: armed they are and well appointed with ſharpe and trenchant nailes: they live upon the prey which they get by chaſing wild beaſts, and fowling. *Cteſias* writeth

that

that there were diſcovered and knowne of them above 120000 in number. By whoſe report alſo, G
in a certaine countrey of India the women beare but once in their life, and their infants preſently waxe grey ſo ſoone as they are borne into the world. Likewiſe, that there is a kind of people named Monoſcelli, that have but one leg apeece, but they are moſt nimble, and hop wonderous ſwiftly. The ſame men are alſo called Sciopodes, for that in hoteſt ſeaſon of the Summer, they lie along on their backe, and defend themſelves with their feet againſt the Sunnes heat: and theſe people as he ſaith are not farre from the Troglodites. Againe, beyond theſe Weſtward, ſome there bee without heads ſtanding upon their neckes, who carrie eies in their ſhoulders. Among the Weſterne mountaines of India the Satyres haunt, (the countrey wherein they are, is called the region of the Cartaduli) creatures of all other moſt ſwift in footmanſhip: which one whiles run with all foure; otherwhiles upon two feet onely like men: but ſo light-footed they are, that H
unleſſe they be very old or ſicke, they can never bee taken. *Tauron* writeth, That the Choromandæ are a ſavage and wild people: diſtinct voice and ſpeech they have none, but in ſteed thereof, they keepe an horrible gnaſhing and hideous noiſe: rough they are and hairie all over their bodies, eies they have red like the houlets, and toothed they be like dogs. *Eudoxus* ſaith, That in the Southerne parts of India, the men kind have feet a cubite long, but the women ſo ſhort & ſmall, that thereupon they be called Struthopodes, *i.* ſparrow footed. *Megaſthenes* is mine author, that among the Indian Nomades there is a kind of people, that in ſteed of noſes have only two ſmall holes, and after the manner of ſnakes have their legs and feet limmer, wherewith they crawle and creepe, and named they are Syrictæ. In the utmoſt marches of India, Eaſtward, about the ſource & head of the river Ganges, there is a nation called the Aſtomes, for that they have no mouths: I
all hairie over the whole bodie, yet clothed with the ſoft cotton and downe that come from the leaves of trees: they live onely by the aire, and ſmelling to ſweet odours, which they draw in at their noſethrils: No meat nor drinke they take, onely pleaſant ſavours from divers and ſundrie roots, floures, and wild fruits growing in the woods they entertaine: and thoſe they uſe to carrie about with them when they take any farre journey, becauſe they would not miſſe their ſmelling. And yet if the ſent be any thing ſtrong and ſtinking, they are ſoone therewith overcome, and die withall. Higher in the countrey, and above theſe, even in the edge and skirts of the mountaines, the Pygmæi Spythamei are reported to bee: called they are ſo, for that they are but a *cubite or three *ſhaftments (or ſpannes) high, that is to ſay, three times nine inches. The clime wherin they dwell is very holeſome, the aire healthie, and ever like to the temperature of the Spring: by reaſon that the mountaines are on the North ſide of them, and beare off all cold blaſts. And theſe pretie people *Homer* alſo hath reported to be much troubled and annoied by cranes. The ſpeech goeth, that in the Spring time they ſet out all of them in battell array, mounted upon the backe of rammes and goats, armed with bowes and arrowes, and ſo downe to the ſea ſide they march, where they make foule worke among the egges and young cranelings newly hatched, which they deſtroy without all pitie. Thus for three moneths this their journey and expedition continueth, and then they make an end of their valiant ſervice: for otherwiſe if they ſhould continue any longer, they were never able to withſtand the new flights of this foule, growne to ſome ſtrength and bigneſſe. As for their houſes and cottages, made they are of clay or mud, fouls feathers, and birds egge ſhels. Howbeit, *Ariſtotle* writeth, That theſe Pygmæans live in hollow caves & holes L
under the ground. For all other matters he reporteth the ſame that all the reſt. *Iſogonus* ſaith, that certaine Indians named Cyrni, live a hundred and fortie yeeres. The like he thinketh of the Æthyopian Macrobij, and the Seres: as alſo of them that dwel upon the mount Athos: and of theſe laſt rehearſed, the reaſon verily is rendered to be thus, becauſe they feed of vipers fleſh, and therfore is it that neither lice breed in their heads, nor other vermine in their cloths, for to hurt and annoy their bodies. *Oneſicritus* affirmeth, That in thoſe parts of India where there are no ſhaddowes to be ſeene, the men are five cubites of ſtature, and two hand breadths over: that they live 130 yeeres: and never age for all that and ſeeme old, but die then, as if they were in their middle and ſettled age. *Crates* of Pergamus nameth thoſe Indians who live above an hundred yeere, Gymnetes: but others there be, and thoſe not a few, that call them Macrobij. *Cteſias* ſaith there M
is a race or kindred of the Indians named Pandore, inhabiting certain vallies, who live two hundred yeeres: in their youthfull time the haire of their head is white, but as they grow to age, waxeth blacke. Contrariwiſe, others there be neere neighbours to the Macrobij, who exceed not fortie yeeres, and their women beare but once in their life time. And this alſo is avouched by *Agathar-*

* πυγμη. Παμμεθεμη.

cides,

A *tharcides*, who affirmeth moreover, that all their feeding is upon locusts, and that they are very quicke and swift of foot. *Clitarchus* and *Megasthenes* both nameth them Mandri, and make account that they have three hundred villages in their countrey. Over and besides, that the women bring forth children when they are but seven yeeres old, and waxe aged at fortie. *Artemidorus* affirmeth, That in the Island Taprobana the people live exceeding long without any maladie or infirmitie of the bodie. *Duris* maketh report, That certaine Indians engender with beasts, of which generation are bred certaine monstrous mungrels, halfe beasts and halfe men. Also, that the Calingian women of India conceive with child at five yeeres of age, & live not above eight. In another tract of that countrey, there be certaine men with long shagged tailes most swift and light of foot: & some again that with their eares cover their whole bodie. The Orites are neigh-
B bours to the Indians, divided from them onely by the river Arbis, who are acquainted with no other meat but fish: which they split and slice into peeces with their nailes, and rost them against the Sunne, and then make bread thereof as *Clitarchus* makes report. *Crates* of Pergamus saith likewise, That the Troglodites above Æthyopia be swifter than horses: and that some Æthyopians are above eight cubites high. And these are a kind of the Æthyopian Nomades, called Syrbotæ, as he saith, dwelling along the river Astapus, toward the North pole. As for the nation called Menismini, they dwell from the Ocean sea twentie daies journey, who live of the milk of certaine beasts that we call Cynocephales, having heads and snouts like dogs. And whole heards and flockes of the females they keepe and feed, killing the male of them all, save only to serve for maintenance of the breed. In the deserts of Affricke yee shall meet oftentimes with fairies, ap-
C pearing in the shape of men and women, but they vanish soone away like fantasticall illusions. See how Nature is disposed for the nones to devise full wittily in this and such like pastimes to play with mankind, thereby not onely to make her selfe merrie, but to set us a wondering at such strange miracles. And I assure you, thus daily and hourly in a manner plaieth she her part, that to recount every one of her sports by themselves, no man is able with all his wit and memorie. Let it suffice therefore, to testifie and declare her power, that wee have set downe those prodigious and strange workes of hers, shewed in whole nations. And then goe forward to discourse of some particulars, approved and knowne in man.

Chap. III.

D

Of prodigious and monstrous births.

That women may bring forth three at one birth, appeareth evidently by the example of the three twins, *Horatij* and *Curiatij*. But to goe above that number, is reputed & commonly spoken to bee monstrous, and to portend some mishap: but onely in Ægypt, where women are more than ordinarie fruitfull, by drinking of Nilus water, which is supposed to helpe generation. Of late yeeres, and no longer since than in the latter end of the reigne of *Augustus Cæsar*, at Ostia there was a woman (a Commoners wife) delivered at one birth of two boies and as many girles, but this was a prodigious token, and portended no doubt the famine that ensued soone after. In Peloponnesus there is found one woman that brought forth at foure births twen-
E tie children, five at once, and the greater part of them all did well, and lived. *Trogus* is mine author, that in Ægypt it is an ordinarie thing for a woman to have seven at a burden. It falleth out moreover, that there come into the world children of both sexes, whom we cal Hermophrodites. In old time they were knowne by the name of Androgyni, and reputed then for prodigious wonders, howsoever now men take delight and pleasure in them. *Pompey* the great, in his Theatre which he adorned and beautified with singular ornaments and rare devises of antique worke, as well for the admirable subject and argument thereof, as the most curious and exquisite hand of cunning and skilfull artificers, among other images and pourtraicts there set up, represented one *Eutiche*, a woman of Tralleis, who after she had in her life time borne thirtie births, her corps was carried forth by twentie of her children to the funerall fire for to bee burnt, according to the ma-
F ner of that country. As for *Alcippe*, she was delivered of an Elephant, marie that was a monstrous and prodigious token, & foreshewed some heavie fortune that followed after. As also in the beginning of the Marsians warre, there was a bondwoman brought forth a serpent. In summe, there be many mishapen monsters come that way into the world, of divers and sundrie formes. *Claudius Cæsar* writeth, That in Thessalie there was borne a monster called an Hippocentaur, *i.* halfe

a man and halfe a horse: but it died the very same day. And verily, after he was come to wear the diademe, wee our selves saw the like monster, sent unto him out of Ægypt, embaulmed and preserved in honie. Among many strange examples appearing upon record in Chronicles, we read of a child in Sagunt, that very yeere that it was forced and raised by *Annibal*, which, so soone as it was come forth of the mothers wombe, presently returned into it againe. G

Chap. iiii.

Of the chaunge from one sex to another: and of twins borne.

IT is no lie nor fable, that females may turne to be males. For we have found it recorded in the yeerely Chronicles called Annales, that in the yeere when *Pub. Licinius Crassus*, and *C. Cassius Longinus* were Consuls of Rome, there was in Cassinum a maid child, under the very hand & tuition of her parents, without suspition of being a changeling, became a boy: and by an ordinance of the Southsaiers called Aruspices, was confined to a certaine desert Island, and thither conveighed. *Licinius Mutianus* reporteth, That himselfe saw at Argos one named *Arescon*, who beforetime had to name *Arescusa*, and a married wife: but afterwards in processe of time, came to have a beard, and the genetall parts testifying a man, and therupon wedded a wife. After the same sort he saw (as he saith) at Smyrna, a boy changed into a girle. I my selfe am an eie-witnesse, That in Affricke one *L. Cossicius*, a citizen of Tisdrita, turned from a woman to bee a man, upon the very mariage day: and lived at the time that I wrote this booke. Moreover, this is observed, that if a woman bring twins, it is great good hap if they all live, but either the mother dieth in child bed, or one of the babes, if not both. But if it fortune that the twins be of both sexes, the one male, the other female, it is ten to one if both of them escape. Moreover, this is well known, that as women age sooner than men, and seeme old: so they grow to their maturitie more timely than men, and are apt for procreation before them. Last of all, when a woman goeth with child, if it be a man child, it stirreth oftener in the wombe, and lieth commonly more to the right side: whereas the female moveth more seldome, and beareth to the left. H I

Chap. v.

Of the generation of man: the time of child birth from seven months to eleven, testified by many notable examples out of histories. K

ALL other living creatures have a set time limitted by Nature, both of going with their young, and also of bringing it forth, each one according to their kind. Man onely is borne at all times of the yeere: and there is no certain time of his abode in the wombe, after conception. For one commeth into the world at the seventh months end, another at the eight, and so to the beginning of the ninth and tenth. But before the seventh month, there is no infant ever borne that liveth. And none are borne at seven months end, unlesse they were conceived either in the very chaunge of the moone, or within a day of it under or over. An ordinarie thing it is in Ægypt for women to goe with young eight months, and then to be delivered. And even in Italie also now adaies, children so borne, live and doe well: but this is against the common received opinion of all old writers. But there is no certainetie for to ground upon in all these cases, for they alter divers waies. Dame *Vestilia* (the widdow of *C. Herditius*, wife afterwards of *Pomponius*, and last of all, maried to *Orfitus*; all right worshipfull cittizens, and of most noble houses) had foure children by her three husbands, to wit, *Sempronius*, whom she bare at the seventh month; *Suillius Rufus* at the eleventh; with *Corbulo* likewise shee went seven months, yet they lived all: and these two last, came both to be Consuls. After all these sonnes, she brought forth a daughter, namely, *Cæsonia*, wife to the Emperour *Caius* (*Caligula*) at the eight months end. They that are borne thus in this month, have much adoe to live, and are in great daunger for fortie daies space. Yea, and their mothers are very sickly, and subject to fall into untimely travell all the fourth moneth and the eight: and if they fall to labour, and come before their time, they die for it. *Massurius* writeth, That *L. Papyrius* the Pretour or lord cheese justice, when a second heire in remainder made claime, and put in plea for his inheritance of the goods, made an award, and gave judgement against him, in the behalfe of an infant the right heire, borne after the decease of his father: upon this, that the mother came in and testified how shee was delivered of that child, within thirteene L M

months

A months after the death of the testator: the reason was, because there is no definite time knowne nor set downe for women to goe with child.

Chap. vi.

Of Conceptions: and signes distinguishing the sex in great bellied women, before they are delivered.

IF tenne daies after that a woman hath had the companie of a man, she feele an extraordinarie ach in the head, and perceive giddinesse in the braine, seeming that all things went round; find a dazeling and mistinesse in the eies, abhorring and lothing of meat, and withall, a turning
B and wambling of the stomacke: it is a signe that she is conceived, and beginneth to breed. If she goe with a boy, better coloured will she be all the time, and delivered with more ease: and by the fortieth day she shall feele a kind of motion and stirring in her wombe. But contrariwise it falleth out in the breeding of a girle: shee goeth more heavily with it, and findeth the burden heavier, her legs and thighes about the share will swell a little. And ninetie daies it will be before shee perceive any moving of the infant. But bee it male or female that shee breeds, they put her to much paine and greevance when their haire beginneth to bud forth, and ever at the full of the moone: and even the very infants after they are borne, are most amisse and fartheſt out of frame about that time. And verily, great regard must be had of a woman with child all the while that shee goeth therewith, both in her gate, and in every thing els that can be named. For if women feed usu-
C ally upon over-salt and powdered meat, they will bring forth a child without nailes: and if they hold not their wind in their labour, longer it will be ere they be delivered, and with more difficultie. Much yawning in the time of travell is a deadly signe: like as to sneese presently upon conception, threateneth abortion, or a slip.

Chap. vii.

Of the conception and generation of man.

I Am abashed much, and very sorrie to think and consider what a poore and tickliſh beginning man hath, the prowdest creature of all others: when the smell onely of the snuffe of a candle
D put out, is the cause oftentimes that a woman falleth into untimely travell. And yet see, these great tyrants, and such as delight onely in carnage & bloudshead, have no better originall. Thou then that presumest upon thy bodily strength, thou that standest so much upon fortunes favors and hast thy hands full of her bountiful gifts, taking thy selfe not to be a foster child and nourceling of hers, but her naturall sonne born of her own bodie: thou, I say, that busiest thy head evermore, and settest thy mind upon conquests and victories: thou that art upon every good successe and pleasant gale of prosperitie puffed up with pride, and takest thy selfe for a god, never thinkest that thy life, when it was hung upon so single a thred, with so small a matter might have miscaried. Nay more than that, even at this day in more daunger art thou than so, if thou chance to be but stung or bitten with the little tooth of a serpent: or if no more but the very kernell of a
E raisin goe downe thy throte wrong, as it did with the poët *Anacreon*, which cost him his life. Or, as *Fabius* a Senatour of Rome, and lord cheefe justice besides, who in a draught of milke fortuned to swallow a small haire, and was strangled withall. Well then, think better of this point. For he verily that will evermore set before his eies and remember the frailetie of mans estate, shall live in this world uprightly and in even ballance, without enclining more to one side, than unto another.

Chap. viii.

Of those that be called Agrippæ.

F TO be borne with the feet forward, is unnaturall and unkind. And such as come in that order into the world, the Latines were wont to name Agrippæ, as if a man should say, Born hardly and with much adoe. And in this manner *M. Agrippa* (as they say) came forth of his mothers wombe: the only man almost that is knowne to have brought any good fortune with him, and prospered in the world, of all that ever were in that sort borne. And yet as happie as hee was,

and how well soever he chieved in some respects, hee was much pained with the gout, and passed G
all his youth and many a day after in bloudie warres, and in daunger of a thousand deaths. And
when he had escaped all these harmeful perils, unfortunate he was in all his children, and especi-
ally in his two daughters the *Agrippinæ* both: who brought forth those unhappie impes so perni-
cious to the whole earth, namely, *C. Caligula* and *Domitius Nero*, two Emperours, that is to say,
two fierie flames for to consume and wast all mankind. Over and besides, his infelicitie herein ap-
peared, that he lived so small a time, dying as he did a strong and lustie man, in the one and fiftie
yeere of his age, tormented and vexed with the adulteries of his owne wife: oppressed with the
heavie & intollerable servitude that he was in under his wives father. In which regards it seemeth
he paid full deere for the præsage of his untoward birth and nativitie. Moreover, *Agrippina* hath
left in writing, That her sonne *Nero* also, late Emperour, who all the time of his reigne was a H
verie enemie to all mankind, was borne with his feet forward. And in truth by the right order
and course of Nature, a man is brought into the world with his head first, but it carried forth
with his feet formost.

Chap. ix.

Births cut out of the wombe.

BVt more fortunate are they a great deale, whose birth costeth their mothers life, and part
from their mothers by meanes of incision: like as *Scipio Africanus* the former, who came
into the world in that wise: and the first that ever was surnamed *Cæsar*, so called because hee I
was ript out of his mothers bellie. And hereof commeth the fore-name also of the *Cæsones*. In
like manner also was that *Manlius* borne, who entred Carthage with an armie.

Chap. x.

Who are Vopisci.

THe Latines were wont to call him * Vopiscus, who being one of two twinnes happened to
stay behind in the wombe the full tearme, when the other miscarried before by abortive
and untimely birth. And in this case there chaunce right straunge and wonderfull acci-
dents, although they fall out but very seldome. K

* Opiscus rather.

Chap. xi.

Examples of many infants at one birth.

FEw creatures there be but women again, that seeke after the male and can skill of their com-
panie, after they be once conceived with young: one kind verily or two at the most there is,
knowne to conceive double one upon the other. We find in bookes written by Physicians,
and in their records who have studied such matters and gathered observations, that there have
passed or been cast away from a woman at one onely slip, 12 distinct children: but when it falleth
out that there is some prettie time betweene two conceptions, both of them may tarrie their L
complete time, and be borne with life: as it appeared in *Hercules* and his brother *Iphiclus*: as al-
so in that harlot who was delivered of two infants, the one like her owne husband, the other re-
sembling the adulterer: likewise in a Proconnesian bond-servant, who was in one day gotten
with child, to wit, by her master, and his baily or procurator: and being afterwards delivered of
two children, they bewraied plainly who were their fathers. Moreover, there was another who
went her full time, even nine moneths for one child, but was delivered of another at the five
moneths end. Furthermore in one other, who having dropped downe one child at the end of
seven moneths, by the end of the ninth came with two twinnes more. Over and besides it is
commonly seene, that children be not alwaies answerable to the parents in every respect: for of
perfect fathers and mothers who have all their limmes, there are begotten children unperfect M
and wanting some members: and contrariwise, parents there are maimed and defective in some
part, who nevertheles ingender children that are sound and entire, and with all that they should
have. It is seene also, that infants are at a default of such parts as their parents misse: yea and they
carrie often-times certaine markes, moles, blemishes, and skarres, of their fathers and mothers,

as

A as like as may be. Among the people called Dakes, the children uſually carrie the markes imprinted in their armes, of them from whome they are deſcended, even to the fourth generation.

Chap. xii.

Examples of many that have been very like and reſembled one another.

IN the raſe and familie of the *Lepidi*, it is ſaid there were three of them (not ſucceſſively one after another, but out of order after ſome intermiſſion) who had everie one of them when they were borne, a little pannicle or thinne skinne growing over the eye. Some have beene
B knowne to reſemble their grandſires: and of two twinnes, one hath been like the father, the other the mother: but hee that was borne a yeere after, hath beene ſo like his elder brother, as if hee had beene one of the twinnes. Some women there bee that bring all their children like to themſelves: and others againe, as like to their husbands: and ſome like neither the one nor the other. Yee ſhall have women bring all their daughters like to their fathers, and contrariwiſe, their ſonnes like the mothers. The example is notable, and yet undoubted true, of one *Nicæus*, a famous wreſtler of Conſtantinople, who having to his mother a woman begotten in adulterie by an Æthyopian, and yet with white skin, nothing different from other women of that countrey, was himſelfe blacke, and reſembled his grandſire, the Æthyopian aboveſaid. Certes, the cogitations and diſcourſes of the mind make much for theſe ſimilitudes
C and reſemblances whereof wee ſpeake: and ſo likewiſe many other accidents and occurrent objects, are thought to bee very ſtrong and effectuall therein, whether they come by ſight, hearing, and calling to remembrance; or imaginations onely conceived, and deepely apprehended in the very act of generation, or the inſtant of conception. The wandering cogitation alſo and quicke ſpirit either of father or mother, flying too and fro all on a ſuddaine, from one thing to another, at the ſame time, is ſuppoſed to bee one cauſe of this impreſſion, that maketh either the foreſaid uniforme likeneſſe, or confuſion and varietie. And hereupon it commeth, and no marvell it is, that men are more unlike one another, than other creatures: For the nimble motions of the ſpirit, the quicke thoughts, the agilitie of the mind, the varietie of diſcourſe in our wits, imprinteth diverſe formes, and many markes of ſundrie cogitations.
D Whereas the imaginate facultie of other living creatures is unmoveaable, and alwaies continueth in one: in all it is alike, and the ſame ſtill in every one, which cauſeth them alwaies to engender like to themſelves, each one in their ſeverall kind. *Artenon* a meane man among the Commons, was ſo like in all points to *Antiochus* king of Syria, that *Laodicea* the queene, after that *Antiochus* her husband was killed, ſerved her owne turne by the ſaid *Artenon*, and made him play the part of *Antiochus*, untill ſhee had by his meanes, as in the kings perſon, recommended whom ſhee would, and made over the kingdome and crowne in ſucceſſion and reverſion to whom ſhee thought good. *Fibius* a poore Commoner of Rome, and *Publicius*, one newly of a bondſlave made a free man, were both of them ſo like unto *Pompeius* the great, that unneth or hardly the one could bee diſcerned from the other: ſo lively did they repreſent that
E good viſage of his ſo full of honeſtie, ſo fully expreſſed they and reſembled the ſingular majeſtie of that countenance which appeared in *Pompeius* his forehead. The like cauſe it was that gave his father alſo the ſurname of *Menogenes*, his cooke, albeit hee was ſurnamed alreadie *Strabo*, for his ſquint eies: but hee would needs beare the name of a defect and infirmitie even in his bonſervant for the love hee had unto him, by reaſon of his likeneſſe. So was one of the *Scipiones* alſo ſurnamed *Serapius* upon ſuch an occaſion, after the name of one *Serapia*, who was but a baſe ſlave of his, and no better than his ſwine-heard, or dealer in buying and ſelling his ſwine. Another *Scipio* after him, of the ſame houſe, came to bee ſurnamed *Salutio*, becauſe a certaine jeſter of that name was ſo like unto him. After the ſame manner one *Spinter*, a plaier of the ſecond place or part, and *Pamphilus* another plaier of the third part, or in the third
F place, gave their names to *Lentulus* and *Metellus*, who both were Conſuls together in one yeere, for that they reſembled them ſo truly. And certes, mee thinkes this fell out very untowardly, and was but a ridiculous pageant, and a very unſeemely ſhew upon a ſtage, to ſee both Conſuls lively repreſented there at once in the perſons of theſe two plaiers. Contrariwiſe, *Rubrius* the ſtage-plaier was ſurnamed *Plancus*, becauſe hee was ſo like to *Plancus* the Oratour.

Againe, *Burbuleius* and *Menogenes*, both plaiers of Enterludes, resembled *Curio* the father or the elder, and *Messala Censorius*, for all he had been Censor, that the one could not shift & avoid the surname of *Burbuleius*, and the other of *Menogenes*. There was in Sicilie a certaine fisherman who resembled in all points *Sura* the pro-consull, not onely in visage and feature of the face, but also in mowing with his mouth when he spake, in drawing his tongue short, and in his huddle and thicke speech. *Cassius Severus* that famous Orator was reproched for being so like unto *Mirmillo* a drover or keeper of kine and oxen. *Toranius* a merchant slave-seller, sold unto *Marcus Antonius* (now one of the great Triumvirs) two most beautifull and sweet-faced boies, for twins, so like they were one to the other, albeit the one was borne in Asia, & the other beyond the Alpes. But when *Antonie* afterwards came to the knowledge thereof, and that this fraud and cousenage was bewraied and detected by the language and speech of the boies, he fell into a furious fit of choler, and all to berated the foresaid *Toranius*. And when among other challenges hee charged him with the high price that he made him pay (for they cost him two hundred Sesterces, as for twins, and they were none such) the wilie merchant that was his craftsmaster, answered, That it was the cause why he held them so deere and sold them at so great a rate: For (quoth hee) it is no marvell at all, if two brethren twins that lay both together in one bellie, doe resemble one the other; but that there should bee any found, borne as these were in diverse countries, so like in all respects as they, he held it for a most rare and wonderfull thing, and such a commoditie as could not be prised by a merchant to the worth. This answere of his was delivered in so good time, and so fitly to the purpose, that *Antonie* the great man, who never was well but when he outlawed cittizens of Rome, and did confiscate their goods, he I say that erewhile was all enraged and set upon reviling and reprochfull tearmes; was not onely appeased, but also contented so with his bargaine, that he made as great a reckoning of those two boies, as of any thing els that hee had in all that wealth of his.

Chap. xiii.

The cause and manner of generation.

Some bodies there be by a secret of Nature so disagreeing, that they are unfit for generation one with another. And yet as barren as they be themselves so coupled together, fruitful they are enough when they are joined with others. Such were *Augustus* the Emperor and his wife *Livia*. In like manner, some men there be as well as women, that can skill of getting and breeding none but daughters: and others there bee againe that are good at none but sonnes. And many times it falleth out that folke have sonnes and daughters both, but they by turns, this yeere a son and the next a daughter, in order. Thus [*Cornelia*] the mother of the *Gracchi*, who for twelve childbeds kept this course duly: and *Agrippina* the wife of *Cæsar Germanicus* for nine, ever changing from the male to the female. Some women are barren all their youth: and others againe beare but once in their whole life. Some never goe their full time with their children: & such women, if peradventure by the helpe of physicke and other good means, and choise keeping, they overcome this infirmitie, bring daughters ordinarily, and no other. The Emperour *Augustus* among other singularities that he had by himselfe during his life, saw ere hee died the nephew of his neece, that is to say, his progenie to the fourth degree of lineall descent, and that was *Mar. Syllanus* who happened to be borne that very yeere when he departed out of this world. Hee having beene Consull, and afterward lord governour of Asia, was poysoned by prince *Nero*, to the end that hee might thereby attaine to the Empire. *Qu. Metellus Macedonicus*, left behind him sixe children, and by them eleven nephewes: but daughters in law, and sonnes in law, and of all such as called him father, seven. In the Chronicles of *Augustus Cæsar* his acts for his time, wee find upon record, that (in his twelfth Consulship, when *L. Sylla* was his companion and colleague in government, upon the eleventh day of Aprill) *C. Crispinus Helarus*, a gentleman of Fesulæ, came with a solemne pompe carried before him into the Capitoll, attended upon with his nine children, seven sonnes and two daughters; with seven and twentie nephewes, the sonnes of his children: and nine and twentie nephewes more, once removed, who were his sonnes nephewes, and twelve neeces besides, that were his childrens daughters, and with all these solemnly sacrificed.

Chap.

A is obserued for an vndoubted truth, that generally all men come short of the full stature in times past, and decrease still every day more than other: and seldome shall ye see the sonne taller than his father: for the ardent heat of the elementarie fire (whereunto the world inclineth alreadie now toward the latter end, as sometimes it stood much upon the waterie element) deuoureth and consumeth that plentifull humor and moisture of naturell seed, that engendreth all things: and this appeareth more euidently by these examples following. In Crete, it caunced that an hill clave asunder in an earthquake, and in the chinke thereof was found a bodie standing, 46 cubits high: some say it was the bodie of *Orion*: others, of *Otus*. We find in chronicles and records of good credit, that the bodie of *Orestes* being taken up, by direction from the Oracles, was seven cubits long. And verily that great and famous poët *Homer*, who lived almost a thousand yeeres *Ten foot and an halfe.
B agoe, complained and gave not over, That mens bodies were lesse of stature even then, than in old time. The Annales set not downe the stature and bignesse of *Nævius Pollio*; but that he was a mightie gyant, appeareth by this that is written of him, namely, That it was taken for a wonderfull straunge thing, that in a great rout and preasse of people that came running togither upon him, he had like to have been killed. The tallest man that hath been seene in our age, was one named *Gabbara*, who in the daies of prince *Claudius* late Emperour, was brought out of Arabia; nine foot high was he, and as many inches. There were in the time of *Augustus Cæsar* 2 others, named *Pusio and *Secundilla*, higher than *Gabbara* by halfe a foot, whose bodies were preserved *Such an one as little *Iohn*, for so the nick-name signifieth.
and kept for a wonder in a charnell house or sepulchre within the gardens of the Salustians. Whiles the same *Augustus* sate as president, his neece *Iulia* had a little dwarfish fellow not above
C two foot and a hand breadth high, called *Conopas*, whome she set great store by and made much of: as also another shee-dwarfe named *Andromeda*, who somtime had been the slave of *Iulia* the princesse, and by her made free. *M. Varro* reporteth, that *Manius Maximus*, and *M. Tullius*, were but two cubits high, and yet they gentlemen and knights of Rome: and in truth we our selves have seene their bodies how they lie embalmed and chested, which testifieth no lesse. It is well knowne, that there be some that naturally are never but a foot and an halfe high; others again somewhat longer: and to this heigth they came in three yeeres, which is the full course of their age, and then they die. We read moreover in the Chronicles, that in Salamis one *Eutkimenes* had a sonne, who in three yeeres grew to be three cubits high, but hee was in his gate slow and heavie, and in his wit as dull and blockish: howbeit in this time under-growne he was, and his
D voice chaunged to be great, and at three yeeres end died sodainly of a generall crampe or contraction of all the parts of his bodie. It is not long since I saw my selfe the like in all respects (saving that undergrowing aforesaid) in a sonne of one *Cornelius Tacitus* a Romane knight, and a procurator or generall receiver and treasurer for the State in Gaule Belgique: such the Greekes call Εκτραπελος, *i. Ectrapelos*: we in Latine have no name for them.

Chap. xvii.

Certaine notable obseruations in bodies of men and women.

E WEe see tried by experience, that take measure of a man from the sole of the foot up to the crowne of the head, so farre it is betweene the ends of his two middle and longest fingers, when hee stretcheth out his armes and hands to the full. As also, that some men and women be stronger of the right side than of the left: others againe that be as strong of one as the other: and there be, that are altogither left handed, and best with that hand: but that is seldome or never seene in women. Moreover, men weigh heavier than women: and in everie kind of creature, dead bodies be more heavie than the quicke: and the same parties sleeping weigh more than waking. Finally, obserued it is, that the dead corps of a man floteth upon the water with the face upward, but contrariwise women swimme groveling, as if Nature had prouided to save their honestie and cover their shame, even when they are dead.

Chap. xviii.

F

Examples of divers extraordinarie cases in mans bodie.

WEe have heard, that some mens bones are solide and massie, and so do live without any marow in them: you may know them by these signes, they never feele thirst, nor put forth any sweat: and yet we know that a man may conquer and master his thirst if hee list:

liſt: for ſo a gentleman of Rome one *Iulius Viator*, deſcended from the race of the Vocontians our allies; being falne into a kind of dropſie betweene the skin and the fleſh during his minoritie and nonage, and forbidden by the Phyſicions to drinke; ſo accuſtomed himſelfe to obſerve their direction, that naturally he could abide it: in ſo much, that all his old age even to his dying day, he forbare his drinke. Others alſo have ben able to command and over-rule their nature in many caſes, and breake themſelves of divers things. G

Chap. xix.

Straunge natures and properties of divers perſons.

IT is ſaid, that *Craſſus* (grandfather to that *Craſſus* who was ſlaine in Parthia) was never knowne to laugh all his life time, and thereupon was called *Agelaſtus*: and contrariwiſe, many have been found that never wept. Alſo that ſage and renowmed wiſe man *Socrates*, was ſeen alwaies to carrie one and the ſelfeſame countenance, never more merrie and cheerfull nor more ſolemn and unquiet, at one time than at another. But this obſtinate conſtancie and firme cariage of the mind, turneth now and then in the end into a certaine rigour and auſteritie of nature, ſo hard and inflexible that it cannot be ruled, and in very truth deſpoileth men of all affections; and ſuch are called of the Greekes, Apathes, who had the experience of many ſuch: and (that which is a marveilous matter) thoſe eſpecially that were the great pillars of Philoſophie and deepe learned Clerkes, namely *Diogenes* the Cinicke, *Pyrrho*, *Heraclitus*, and *Timo*, and as for him he was ſo farre gone in this humer, that he ſeemed profeſſedly to hate all mankind. But theſe were examples of a corrupt, perverſe, and froward nature. As for other things, there be ſundrie notable obſervations in many, as in *Antonia* the wife of *Druſus*, who as it was well knowne, never ſpit: in *Pomponius* the poët, one that had ſometimes beene Conſull, who never belched. But as for ſuch as naturally have their bones not hollow, but whole and ſolid, they be very rare and ſeldom ſeene, and called they are in Latine *Cornei*, *i.* hard as horne. H I

Chap. xx.

Of bodily ſtrength and ſwiftneſſe.

VArro in his treatiſe of prodigious and extraordinatie ſtrength, maketh report of one *Titanus*, a man that of bodie was but little and leane withall, howbeit of incomparable ſtrength, much renowmed in the ſenſe ſchoole, and namely, in handling the Samnites weapons, wearing their manner of armor, and performing their feats and maſteries of great name. He maketh mention alſo of a ſonne of his, a ſouldier, that ſerved under *Pompeius* the Great, who had all over his bodie, yea and throughout his armes and hands, ſome ſinewes running ſtreight out in length, others croſſing over-thwart lattiſe-wiſe: and he ſaith moreover of him, that when an enemie out of the campe gave him defiance and challenged him to a combat, he would neither put on defenſive harneſſe, ne yet arme his right hand with offenſive weapon; but with naked hand made means to foile and overcome him, and in the end when he had caught hold of him, brought him away perforce into his owne campe with one finger. *Iunius Valens* a captain, penſioner, or centurion of the guard ſouldiers about *Auguſtus Cæſar*, was wont alone to beare up a charriot laden with certaine hogſheads or a butt of wine, untill it was diſcharged therof, and the wine drawn out: alſo his manner was with one hand to ſtay a coach againſt all the force of the horſes ſtriving and ſtraining to the contrarie: and to perforce other wonderfull maſteries, which are to be ſeene engraven upon his tombe: and therefore (qd. *Varro*) being called *Hercules Ruſticellus*, he tooke up his mule upon his backe and carried him away. *Fuſius Salvius* having two hundred pound weights at his feet, and as many in his hands, and twiſe as much upon his ſhoulders, went withall up a paire of ſtaires or a ladder. My ſelfe have ſeene one named *Arbuscatus*, do wonderfull ſtraunge matters in the open ſhew and face of the world, namely, to walke his ſtations upon the ſtage with a cuirace of lead weighing 500 pound, booted beſides with a paire of buskins or greives about his legges that came to as much in weight. As for *Milo* the great wreſtler of Crotone, when hee ſtood firme upon his feet, there was not a man could make him ſtirre one foot: if he held a pomegranat faſt within his hand, no man was able to ſtretch a finger of his and force it out at length. It was counted a great matter, that *Philippides* ran 1140 ſtadia, to K L M

wit,

A wit,from Athens to Lacedæmon in two daies,untill *Laniſis* a courrier of Lacedæmon, and *Philonides* footman to *Alexander* the great, ran betweene Sicyone and Olis in one day, 1200 ſtadia. But now verily at this day we ſee ſome in the grand cirque,able to endure in one day the running of 160 miles. And but a while agoe wee are not ignorant,that when *Fonteius* and *Vipſanus* were Conſuls,a young boy but nine yeers old,betweene noone and evening ran 75 miles. And verily a man may wonder the more at this matter,and come to the full conceit thereof, if hee doe but conſider, that it was counted an exceeding great journey that *Tiberius Nero* made with three chariots(ſhifting from one to the other freſh)in a day and a night,riding poſt haſt unto his brother *Druſus* then lying ſicke in Germanie,and all that,was but 200 miles.

B

Chap. xxi.

Examples of good eieſight.

WE find in hiſtories as incredible examples as any be,as touching quickneſſe of eieſight. *Cicero* hath recorded, that the whole Poëme of *Homer* called Ilias, was written in a peece of parchmin,which was able to be couched within a nut ſhell. The ſame writer maketh mention of one that could ſee and diſcerne outright 135 miles. And *M. Varro* nameth the man,and ſaith he was called *Strabo:* who affirmeth thus much moreover of him, that during the Carthaginian war hee was wont to ſtand and watch upon Lilybæum,a cape in Sicilie, to diſcover the enemies fleet loſing out of the haven of Carthage,& was able to tell the very juſt number of the ſhips. *Callicrates* uſed to make Piſmires and other ſuch like little creatures,out of yvorie ſo artificially, that other men could not diſcerne the parts of their bodie one from another. There was one *Myrmecides*, excellent in that kind of workmanſhip : who of the ſame matter wrought a chariot with foure wheeles and as many ſteeds, in ſo little rowme,that a ſilie flie might cover all with her wings. Alſo he made a ſhip with all the tackling to it,no bigger than a little bee might hide with her wings.

C

Chap. xxii.

Of hearing.

D AS for hearing,there is one example wonderfull. For the bruit of that battell, whereupon Sybaris was forced and ſacked, was heard the very ſame day as farre as to Olympia [in Greece.] As touching the news of the Cimbrians deſeature,as alſo the report and tidings of the victorie over the Perſians,made by the Romane Caſtores,the ſame day that it was atchieved, were held for divine revelations rather than humane reports, and the knowledge thereof came more by way of viſion than otherwiſe.

Chap. xxiii.

Examples of patience.

E MAny are the calamities in this life, incident to mankind, which have affourded infinite trials of mens patience,in ſuffering paines in their bodie. Among others for women,the example of *Leæna* the courtiſan, is moſt rare and ſingular, who for all the dolorous tortures that could be deviſed,would never bewray *Harmodius* and *Ariſtogiton*,who ſlew the tyrannous king. And for men, *Anaxarchus* did the like, who being for ſuch a cauſe examined upon the racke, in the middeſt of his torments bit off his owne tongue with his teeth, the onely meanes wherby he might haply reveale and diſcloſe the matter in queſtion,and ſpit it in the face of the Tyrant that put him to this torture.

Chap. xxiiii.

F

Examples of memorie.

AS touching memorie,the greateſt gift of Nature,and moſt neceſſarie of all others for this life; hard it is to judge and ſay who of all others deſerved the cheefe honour therein : conſidering how many men have excelled,and woon much glorie in that behalfe. King *Cyrus*

was

was able to call every souldior that he had through his whole armie, by his owne name. *L. Scipio* could doe the like by all the citizens of Rome. Semblably, *Cineas*, Embassador of king *Pyrrhus*, the very next day that he came to Rome, both knew and also saluted by name all the Senate, and the whole degrees of Gentlemen and Cavallerie in the cittie. *Mithridates* the king, reigned over two and twentie nations of diverse languages, and in so many tongues gave lawes and ministred justice unto them, without truchman: and when hee was to make speech unto them in publicke assemblie respectively to every nation, he did performe it in their owne tongue, without interpretor. One *Charmidas* or *Carmadas*, a Grecian, was of so singular a memorie, that he was able to deliver by heart the contents word for word of all the bookes that a man would call for out of any librarie, as if he read the same presently within booke. At length the practise hereof was reduced into an art of Memorie: devised and invented first by *Simonides Melicus*, and afterwards brought to perfection and consummate by *Metrodorus Scepsius*: by which a man might learne to rehearse againe the same words of any discourse whatsoever, after once hearing. And yet there is not a thing in man so fraile and brittle againe as it, whether it be occasioned by disease, by casual injuries and occurrents, or by feare, through which it faileth sometime in part, and otherwhiles decaieth generally, and is cleane lost. One with the stroke of a stone, fell presently to forget his letters onely, and could read no more: otherwise his memorie served him well ynough. Another, with a fall from the rouse of a very high house, lost the remembrance of his own mother, his next kinsfolke, friends, and neighbours. Another, in a sickenesse of his forgot his owne servants about him: and *Messala Corvinus* the great Oratour, upon the like occasion, forgot his owne proper name. So fickle and slipperie is mans memorie: that oftentimes it assaieth and goeth about to leese it selfe, even whiles a mans bodie is otherwise quiet and in health. But let sleep creepe at any time upon us, it seemeth to be vanquished, so as our poore spirit wandereth up and down to seeke where it is, and to recover it againe.

Carneades, according to *Cicero* and *Quintilian*.

G H I

Chap. xxv.

The praise of C. Julius Cæsar.

For vigor and quicknesse of spirit, I take it, that *C. Cæsar* Dictatour, went beyond all men besides. I speake not now of his vertue and constancie, neither of his high reach and deep wit, whereby he apprehended the knowledge of all things under the cope of heaven; but of that agilitie of mind, that prompt and readie conceit of his, as nimble and active as the very fire. I have heard it reported of him, that hee was wont to write, to read, to endite letters, and withall to give audience unto suiters and heare their causes, all at one instant. And being emploied, as you know he was, in so great and important affaires, hee ordinarily endited letters to foure secretaries or clearkes at once: and when he was free from other greater businesse, he would otherwhiles find seven of them worke at one time. The same man in his daies fought fiftie set battels with banners displaied against his enemies: in which point, he alone outwent *M. Marcellus*, who was seene fortie times save one in the field. Besides the carnage of citizens that hee made in the civile warres when he obtained victorie, he put to the sword 1192000 of his enemies, in one battell or other. And certes for mine owne part, I hold this for no speciall glorie and commendation of his, considering so great injurie done to mankind by this effusion of bloud: which in some part he hath confessed himselfe, in that he hath forborne to set downe the overthrowes and bloudshed of his adversaries (fellow-citizens) during the civile wars. Yet *Pompey* the great deserveth honor more justly for scouring the seas, and taking from the rovers 846 saile of ships. But to returne againe to *Cæsar*, over and above the qualities of worth before rehearsed, an especiall propertie of his owne he had, for clemencie and mercie, wherein he so farre forth surmounted all other men, that hee repented therof in the end. As for his magnanimitie, it was incomparable, and he left such a president behind him, as I forbid all men to match or second it. For to speake of his sumptuosities, of his largesses, of the magnificent shewes exhibited to the people, the exceeding cost & charges therein bestowed, with all the stately furniture thereto belonging, were a point of him that favoured such lavish expence and superfluities. But herein appeared his true hautinesse of mind indeed, and that unmatchable spirit of his, That when upon the battell at Pharsalia, as wel the cofers and caskets with letters & other writings of *Pompey*, as also those of *Scipioes* before Thapsus, came into his hands, he was most true unto them, & burnt al, without reading one script or scroll.

K L M

Chap.

A

Chap. XXVI.

The commendation of Pompey the Great.

AS concerning all the titles and victorious triumphs of *Pompey* the great, wherein hee was equall in renowme and glorie, not onely to the acts of *Alexander* the great, but also of *Hercules* in a manner, and god *Bacchus*: if I should make mention thereof in this place, it would redound not to the honour onely of that one man, but also to the grandeur and majestie of the Romane Empire. In the first place then, after he had recovered Sicilie, and reduced it under obeisance (where his first rising was, and where he began to shew himselfe in the quarell of the
B Commons, and to side with *Sylla*) having also conquered and subdued Affricke, and raunged it under the obedience of Rome, where hee acquired the surname of *Magnus*, by reason of the great bootie and pillage which hee brought from thence: being no higher of birth and calling, than a Romane gentleman or man of armes, entred with triumphant chariot into Rome: a thing that was never seene before in a man of that place and qualitie. Immediately after this, he made a voiage into the West, and having brought under obeisance of the Romanes 876 great townes, which he forced by assault betweene the Alpes and the marches of Spaine, he erected Trophees and triumphant columnes upon the mountaine Pyrenæus, with the title and inscription of these victorious exploits: and never made one word of his victorie over *Sertorius*, so brave a mind hee carried with him. And after the civile troubles and broiles appeased and quenched (which drew
C after them all forraine warres) hee triumphed againe the second time, being as yet but a knight of Rome: so oftentimes a generall of commaund and conduct: before hee ever served as soldiour in the field. These famous deeds atchieved, sent out he was in another expedition, to scoure and cleere all the seas, and so forward into the East parts. From whence he returned with more titles still of honor to his countrey, after the manner of those that win victories at the solemn feastivall *Games. For as the victors use not themselves to accept the chaplets & guirlands in their own names, but to be crowned therwith in the behalf of their native countries: even so, *Pompeius*, in that temple which he caused to be built of the bootie and pillage woon from the enemies, and dedicated to *Minerva*, entituled the cittie with the whole honour, and attributed all unto them in an inscription or table engraven in this manner: Pompeius *the Great, lord generall, having*
D *finished the warres which continued thirtie armes, during which hee had discomfited, put to flight, slaine, or received to mercie upon submission* 2183000 *men: sunke or taken* 846 *saile: taken & brought to his devotion, of cities, townes, and castles, to the number of* 1538: *subdued and put under subiection all lands and nations, betweene the lake Mæotis and the red sea, hath dedicated of right and good desert this temple to* Minerva. This is the breefe and summarie of his service in the East. As for the triumph, wherein he rode the third day before the Calends of October, in the yeere wherein *M. Messala* and *M. Piso* were Consuls, the tenure or title ran in this forme. Whereas *Cn. Pompeius* "
hath cleared all the sea-coasts from pirates and rovers, and thereby recovered unto the people of "
Rome the lordship and soveraignte of the seas: and withall subdued Pontus, Armenia, Paphla- "
gonia, Cappadocia, Cilicia, Syria: the Scythians, Iudæa, & the Albanois: the Iland Creta, and "
E the Bastarnians, hath triumphed over them all, as also for the vanquishing of the two kings *Mi-* "
thridates and *Tigranes*. But the greatest glorie of all glories in him was this (as himselfe delivered "
openly in a ful assembly, at what time as he discourse of his own exploits) That wheras Asia when he received it, was the utmost frontier province and limit of the Roman Empire, he left the same in the very hart & mids therof, and so delivered it up to his country. Now if a man would set *Cæsar* on the other side against him, and likewise rehearse his noble acts, who indeed of the two seemed greater in the sight of the world, he had need verily to fetch a circuit about the world, & comprehend the whole globe thereof, which were an infinit peece of worke, and in all reason impossible.

*Olympia, Nemæa, Pythia, Isthmia.

* or Victorie.

Chap. XXVII.

F

The praise of Cato, the first of that name.

IN sundrie other kinds of vertues many men have diversly excelled. But *Cato*, the first of the *Porcian* house, was thought to be the only person who was able to perform three things in the highest degree that are most commendable in a man. For first and formost hee was a singular

good Oratour: secondly, a most brave captaine and renowmed commander in the field: and last G
of all, a right worthie Senatour and approved counsellor. And yet in my conceit, all these excellent parts seeme to have shined more bright (although he came after the other) in *Scipio Æmylianus*. To say nothing of this blessed gift besides, that he was not hated and spighted of so many men, as *Cato* was. But if you will seeke for one especiall thing in *Cato* by himselfe, this is reported of him, That he was judicially called to his answer 44 times, and never was there man accused oftener than he, yet went he ever cleare away and was acquit.

Chap. xxviii.

Of Valour and Fortitude.

H

AN endlesse peece of worke it were to know and set downe who bare the price for valiancie, & namely if we admit the fabulous tales of poets. As for the poet *Ennius*, he had in greatest admiration. *T. Cæcilius Teucer*, and especially his brother: and in regard of those two, he compiled the sixt booke of his Annales to the rest. But *L. Siccius Dentatus*, a Tribune of the Commons, not long after the banishment of the kings, when *Sp. Tarpeius* and *A. Æternius* were Consuls, by most voices surpasseth in this kind, if it be true that a number of men report of him: namely, that he served in 120 foughten fields: 8 times maintained combate with his enemie, giving defiance, and evermore got the upper hand: carried before him the glorious markes of 45 skarres received by wounds, and never a one in the backe parts of his bodie. Moreover, hee woon the spoile of 34 severall enemies: and had given him of his captaines, for his proëesse and good I
service, 18 headlesse speares, 25 caparisons and furnitures of great horses, 83 chains, 160 bracelets for to adorne his arms: 26 crowns, or triumphant chaplets, wherof 14 were civick, for rescuing of Roman citizens in jeopardie of death, 8 of beaten gold: three other murall, for mounting first over the enemies wall: and last of all, one obsidionall, for enforcing the enemie to levie and breake up his siege and depart: also with a stipend or pension-fee out of the Exchequer & chamber of the citie: and lastly, the price or raunsome of ten prisoners, with twentie oxen besides to make up the reward: and in this glorious pompe and shew he followed nine captaine Generals, going before him, who by his meanes triumphed all. Over and besides (which I suppose, was the worthiest act that ever he did) he accused in open court before the bodie of the people, one commander and great captaine, named *T. Romulius*, (notwithstanding he had been a Consull) & con- K
victed him for his ill management and conduct of the warres. As for *Manlius Capitolinus*, he wan as many honourable testimonies of valour, but that he lost them all againe, with that unhappie end of his life that hee made. Before hee was full 17 yeeres of age, hee had gained alreadie two complete spoiles of his enemies. He was the first Roman knight or man of armes, that was honored with a murall crown of gold for skaling over the wall in an assault: with sixe civike chaplets for saving the life of cittizens sixe times out of the enemies hands. Moreover, he received 37 gifts of the people for his good service, and carried the skars in the fore-part of his bodie of 33 wounds. He rescued *P. Servilius*, generall of the Roman Cavallerie, and in the rescue was himselfe wounded for his labour in shoulder and thigh both. Above all other hardie acts, hee alone guarded and defended the Capitoll, and thereby the whole State of Rome, against the Gaules: a brave L
peece of service, but that he marred all againe in aspiring to bee king over the same. In these above rehearsed examples, certes vertue hath carried a great stroke, but yet fortune hath been the mightier, and prevailed more in the end. And in my judgement verily, none may right and justly preferre any man before *M. Sergius*: albeit *Catiline* his nephewes sonne discredited that name of his, and derogated much from the honour of his house. The second time that hee went into the field and served, his hap was to loose his right hand: and in two other services hee was wounded no fewer than three and twentie times: by meanes whereof hee had little use of either hand, and his feet stood him in no great steed. Howbeit, thus maimed and disabled as he was for to be a soldiour, he went many a time after to the warres, attended with one slave onely, and performed his devoire. Twise was he taken prisoner by *Anniball*, (for hee dealt not I may tell you with ordinarie M
enemies) and twise brake he prison and made escape, notwithstanding, that for twentie moneths space he was every day ordinarily kept bound with chaines and fetters. Foure times fought hee with his left hand only, untill two horses one after another, were killed under him. Then he made himselfe a right hand of yron, which he fastened to his arme, and fighting with the helpe of it, he raised

A raised the seege from before Cremona, and saved Placentia. In Fraunce he forced twelve fortified campes of the enemies. All which exploits appear upon record in that Oration of his which hee made in his Pretourship, at what time as his Colleagues and companions in government would not permit him to be at the solemne sacrifices, because he had a maime, and wanted a lim. But what heapes of crownes and chaplets, thinke you, would hee have gathered together, if hee had been committed and matched with any other enemies but *Annibal*? Certes, to know a man of worth indeed, much materiall it is to consider in what time he liveth, and is emploied, for the proofe of his valour. For what store of civicke coronets and garlands, yeelded either the battell of Trebia and Ticinus, or of Thrasymenus the lake? what crowne could have been gained and woon at the journey of Cannæ, where the best service was by good footmanship to flie and
B run away? To conclude, all others may vaunt verily, that they have vanquished men: but *Sergius* may boast, that he hath conquered and overcome even Fortune her selfe.

Chap. xxix.

The commendations of some men for their quicke wits.

WHo is able to make a muster as it were of them that have been excellent in wit: so difficult a matter it is to run through so many kinds of sciences, and to take a survey of curious handie workes in such varietie, of most rare and singular artisanes? Vnlesse haply wee agree upon this, and say, that *Homer* the Greeke poet excelled all other, considering
C either the subject matter, or the happie fortune of his worke. And hereupon it was, that *Alexander* the great (for in this so prowd a censure and comparison, I shall doe best to cite the judgement of the highest, and of those that bee not subject to envie) having found among the spoiles of *Darius* the king, his perfumier or casket of sweet ointments, and the same richly embellished with gold, with costly pearles and precious stones: when his friends about him, shewed him many uses whereto the said coffer or cabinet might bee put unto, considering that *Alexander* himselfe could not away with those delicate perfumes, being a warriour, and slurried with bearing armes, and following warfare: when, I say, his gallants about him could not resolve well what service to put it to: himselfe made no more adoe, but said thus, I will have it to serve for a case of *Homers* bookes: judging hereby, that the most rare and precious worke proceeding from that so
D admirable a wit of man, should bee bestowed and kept in the richest boxe and casket of all others. The same prince, in the forcing and saccage of the cittie of Thebes, caused by expresse commaundement, That the dwelling house and whole familie of *Pindarus* the Poet should bee spared. Hee built againe the native cittie wherein *Aristotle* the Philosopher was borne: and in so glorious a shew of his other worthie deeds, would needs intermingle this testimonie of his bountie, in regard of that rare clearke who gave light to all things in the world. The murderers of *Archilochus* the Poet, the verie Oracle of *Apollo* at Delphi, disclosed and revealed. When *Sophocles* the prince of all tragicall Poets was dead in Athens, at what time as the cittie was besieged by the Lacedæmonians, god *Bacchus* appeared sundrie times by way of vision in a dreame to *Lysander* their king, admonishing him to suffer his delight, and him whom
E he set most store by, for to bee enterred. Whereupon the king made diligent enquirie who lately was departed this life in Athens: and by relation of the citizens soone found it out and perceived who it was that the foresaid god meant, and so gave them leave to burie *Sophocles* in peace, and to performe his funerals without any molestation or impeachment.

Chap. xxx.

Of Plato, Ennius, Virgil, M. Varro, and M. Cicero.

F DEnis the tyrant, borne otherwise to pride and crueltie, being advertised of the comming and arrivall of *Plato*, that great clerke and prince of learning, sent out to meet him a ship adorned with goodly ribbands, and himselfe mounted upon a charriot drawne with foure white horses, received him as if hee had beene a K. at the haven, when hee disbarked and came a land. *Isocrates* sold one Oration that he made, for 20 talents of gold. *Æschines*, that famous orator of Athens in his time, having at Rhodes rehearsed that accusatorie oration which hee had

made against *Demosthenes*, read withall his adversaries defence againe; by occasion whereof he G
was confined to Rhodes, and there lived in banishment: and when the Rhodians that heard it
wondred thereat; Nay (qd. *Æschines*) you would have marveiled much more at it, if you had
heard the man himselfe pronouncing it, and pleading *Viva voce*: yeelding thus as you see a no-
table testimonie of his adversarie, in the time of his adversitie. The Atheniens exiled *Thucydi-*
des their Generall captain: but after he had written his Chronicle, they called him home again,
wondring at the eloquence of the man, whose vertue and prowesse they had before condemned.
The KK. of Ægypt and Macedonie gave a singular testimonie how much they honoured *Me-*
nander the Comicall poët, in that they sent embassadours for him, and a fleet to waft him for his
more securitie: but he wan unto himselfe more fame and glorie by his owne setled judgement,
for that he esteemed more of his owne privat studie and following his booke, than of all those fa- H
vours offered unto him from great princes. Moreover, there have beene great personages and
men of high calling at Rome, who have shewed the like in token, how they esteemed and rega-
ded the learned crew of forrein nations. *Cn. Pompeius*, after he had dispatched the warre against
Mithridates, intended to go and visit *Posidonius*, that renowmed professor of learning; and when
he should enter into the mans house, gave straight commandement to his Lictors or Huishers,
that they should not (after their ordinarie manner with all others) rap at his dore: and this great
warriour, unto whome both the East and West parts of the world had submitted, vailed bonet
as it were, and based his armes and ensigns of state which his officers caried, before the very dore
of this Philosopher. *Cato* surnamed *Censorius*, upon a time when there came to Rome that no-
ble embassage from Athens, consisting of three, the wisest Sages among them; when hee had I
heard *Carneades* speake (who was one of those three) gave his opinion presently, That those em-
bassadors were to be dispatched and sent away with all speed; for feare least if that man argued
the case, it would be an hard peece of worke to sound and find out the truth, so pregnant were his
reasons and so wittie his discourses. But Lord! what a chaunge is there now in mens manners
and dispositions! This *Cato*, the renowmed Censor, both now and at all times else, could not a-
bide to have any Grecian within Italy, but alwayes gave judgement to them all in generall to
be expelled: but after him there comes his nephew once removed, or his nephewes sonne, who
brought one of their Philosophers over with him, when he had ben militarie Tribune or knight
marshall: and another likewise upon his embassage to Cypres. And verily a wonder it is and a
memorable thing, to consider how these two *Catoes* differed in another point: for the former of K
them could not away with the Greeke tongue; the other that killed himselfe at Vtica, esteemed
it as highly. But to leave straungers, let us now speake of our owne countreymen, so renowmed
in this behalfe. *Scipio Africanus* the elder, gave expresse order and commaunded, That the statue
of *Q. Ennius* the poët should be set over his tombe, to the end, that the great name and stile of
Africanus, or indeed the bootie rather that hee had woon and carried away from a third part of
the world, should in his monument upon the relickes of his ashes be read together with the title
of this poët. *Augustus Cæsar* late emperour, expressely forbad that the Poëme of *Virgil* should
be burned, notwithstanding that he by his last will and testament upon a modestie, gave order to
the contrarie: by which means there grew more credit and authoritie unto the Poët, than if him- L
selfe had approoved and allowed his owne verses. *Asinius Pollio* was the first that set up a pub-
lick librarie at Rome, raised of the spoile and pillage gained from the enemies. In the librarie of
which gentleman, was erected the image of *M. Varro*, even whiles he lived: a thing that woon as
great honour to *M. Varro* in mine opinion (considering that among those fine wits, whereof a
great number then flourished at Rome, his hap onely was to have the guirland at the hands of a
noble citizen and an excellent oratour beside:) as that other navall crowne gained him, which
Pompey the Great bestowed upon him for his good service in the pyrats warre. Infinite examples
more there are of us Romanes, if a man would seeke after them and search them out: for this
onely nation hath brought forth more excellent and accomplished men in every kind, than all
the lands besides of the whole world. But what a sinne should I commit, if I proceeded farther
and spake not of thee, ô *M. Cicero*? and yet how should I possibly write of thee according to thy M
worthinesse? would a man require a better proofe of thy condigne praises, than the most hono-
rable testimonie of the whole bodie of that people in generall, and the acts onely of thy Con-
sulship, chosen out of all other vertuous deeds throughout thy whole life? Thine eloquence was
the cause that all the Tribes renounced the law *Agraria*, as touching the division of lands a-

mong

among the commons, albeit their greatest maintenance and nourishment consisted therein: Through thy persuasion they pardoned *Roscius*, the first authour of that seditious bill and law, whereby the States and degrees of the cittie were placed distinctly in their seats at the Theatre: they were content, I say, and tooke it well, that they were noted and pointed at for this difference in taking place and rowmes, which he first brought in. By meanes of thy orations, the children of proscript and outlawed persons, were ashamed and abashed to sue for honorable dignities in common-weale: thy wittie head it was that put *Catiline* to flight, and banished him the cittie: thou, and none but thou didst out-law *M. Antonius*, and put him out of the protection of the state. All haile therefore, ô *M. Tullius*: faire chieve thee, thou that first was saluted by the name of *Parens Patriæ*, *i.* Father of thy countrey: first that deserved triumph in thy long robe, and the lawrell guirland, for thy language: the only father indeed of eloquence and of the Latin tongue: and (as *Cæsar* Dictator sometime thine enemie hath written of thee) hast deserved a crowne above all other triumphs, by how much more praise-worthie it is, to have amplified and set out the bounds and limits of Romane wit and learning, than of Romane ground and dominion.

Chap. xxxi.

Of a certaine maiestie in behaviour and carriage.

THose, who among other gifts of the mind have surpassed other men in sage advise and wisdome, were thereupon at Rome surnamed *Cati*, and *Corculi*. In Greece, *Socrates* carried the name away from all the rest, beeing deemed by the Oracle of *Apollo Pythius*, the wisest man of all others.

Chap. xxxii.

Of Authoritie.

AGaine, *Chilo* the Lacedemonian was of so great reputation among men, that his sayings were held for Oracles: and three precepts of his were written in letters of gold, and consecrated in the temple of *Apollo* at Delphi: where the first was this, *Know thy selfe*: the second, *Set thy mind too much of nothing*: the third, *Debt and law are alwaies accompanied with miserie*. His hap was to die for joy, upon tidings that his sonne wan the best prize and was crowned victour at the solemne game Olympia: and when he should be interred, all Greece did him honour, and solemnized his funerals.

Chap. xxxiii.

Persons of a divine spirit and heavenly nature.

AMong women, *Sibylla* was excellent at divination, and for a certaine fellowship and societie with cœlestiall wights, of great name. As for men, among the Greekes, *Melampus*: and with us Romanes, *Martius*, carried as great an opinion.

Chap. xxxiiii.

Scipio Nasica.

SCipio *Nasica* was judged once by the Senat (sworne to speake without passion and affection) to be the best and honestest man that ever was from the beginning of the world: howbeit the same man, as upright as hee was, suffered a repulse and disgrace at the peoples hands in his white robe when he sued for a dignitie: and to conclude, in the end his hap was not to depart this life in his owne countrey; no more than it was the will of God that *Socrates* the wisest man, (so deemed by the Oracle of *Apollo*) should die out of prison.

Chap. xxxv.

Of Chastitie.

SVlpitia, daughter of *Paterculus* and wife to *Fulvius Flaccus*, by all the voices in generall of Romane dames, carried away the prize for continencie, and was elected out of the hundred principall matrons of Rome to dedicate and consecrate the image of *Venus*, according to

an ordinance out of *Sibyls* bookes. *Claudia* likewise, was by a religious and devout experiment prooved to be such another, at what time as shee brought the mother of the gods, *Cybele*, to Rome. G

Chap. xxxvi.

Of Pietie, or kindnesse.

IN all parts verily of the world, there have been found infinite examples of naturall love and affection, but one example thereof at Rome hath been knowne singular above all others, and incomparable. There was a poore young woman of the common sort, and therefore base and of no account, who lately had been in childbed, whose mother was condemned to perpetuall H prison, and there lay, for some great offence that she had committed: this daughter of hers and young nource aforesaid, obtained leave to have accesse unto her mother, and evermore by the goaler was narrowly searched for bringing to her any victuall, because her judgement was to be famished to death: thus shee went and came so long, untill at last she was found suckling of her mother with the milke of her breasts. This was reputed for such a straunge and wondrous example, that the mother was released and given to the daughter for her rare pietie and kindnes: both of them had a pension out of the cittie allowed them for their maintenance for ever; and the place where this hapned was consecrated to *Pietie*: in so much, as when *C. Quintius* and *M. Acilius* were Consuls, there was a temple to her built, in the very place where this prison stood, just where as now standeth the Theatre of *Marcellus*. The father of the *Gracchi* happened to light I upon and take two serpents within his house, whereupon hee sent out to the soothsayers for to know, What this thing might presage? who made this answer, That if he would himselfe live, the female snake should be killed: Nay marry (qd. hee) not so, but rather kill the male; for my wife *Cornelia* is young enough, and may have more children. This said he, meaning to spare his wives life, in consideration of the good shee might doe to the common-weale. And in truth, like as the wizards propheſied, so it fell out soone after, and their words tooke effect. *M. Lepidus* so entirely loved his wife *Apuleia*, that he died for very thought and griefe of heart, after shee was divorced from him and turned away. *P. Rutilius* chaunced to be somewhat ill at ease and sickish, but hearing of his brothers repulse and that he was put by his Consulship (for which hee stood in suite) died sodainly for sorrow. *P. Catienus Philotimus* so loved his lord and master, that not- K withstanding he was by him made his sole heir of all that ever he had, yet for kind heart, cast himselfe into the funerall fire to be burnt with him.

Chap. xxxvii.

Of divers excellent men in many Arts and Sciences, and namely, in Astrologie, Grammer, and Geometrie.

IN the skill and knowledge of sundrie Sciences, an infinite number of men have excelled: howbeit, we will but take the very flower of them of them all, and touch those onely whome meet it is to be named for their speciall desert. In Astrologie, *Berosus* was most cunning: in so L much as the Atheniens for his divine predictions and prognostications, caused his statue with a golden tongue, to be erected in the publicke schoole of their Vniversitie. For Grammer, *Apollodorus* was singular, and therefore was highly honoured of the States of Greece, called Amphictyones. In Physicke, *Hippocrates* excelled, so farre forth as by his skill he fore-told of a pestilence that should come out of Sclavonia: and for to cure & remedie the same, sent forth his disciples and schollers to all the citties about. In recompence of which good desert of his, all Greece by a publicke decree ordained for him the like honours, as unto *Hercules*. For the very same cunning and science, king *Ptoloma* gave unto *Cleombrotus* of Cea (at the solemne feast holden in the honour of the great mother of the gods) a hundred talents, and namely for curing king *Antiochus*. *Critobulus* likewise acquired and got himselfe a great name, for drawing an arrow forth of king M *Philips* eie, and curing the wound when he had done, so as the sight remained, and no blemish or deformity appeared. But *Asclepiades* the Prusian, surpassed al others in this kind, who was the first authour of that new sect which bare his name, rejected the Embassadors, the large promises and favours offered of king *Mithridates*: found out the way and meanes to make wine holesome and medici-

A medicinable for ſicke folke: and recovered a man to his former ſtate of health, who was carried forth upon his beire to be buried: and laſtly he attained to the greateſt name, for laying a wager againſt fortune, and pawning his credite ſo farre, as hee ſhould not to be reputed a Phyſician, in caſe he ever were knowne to be ſicke, or any way diſeaſed. And in truth the wager hee woon. For his hap was to live in health untill he was very aged, and then to fall downe from a paire of ſtaires and ſo to die ſuddainely. A ſingular teſtimonie of skill and cunning *M. Marcellus* gave unto *Archimedes* that notable Geometrician and Enginer of Syracuſa, who in the ſaccage and rifling of that cittie, gave expreſſe commaundement concerning him alone, that no violence ſhould bee done unto his perſon: howbeit his will failed of execution, by occaſion of a ſoldior, who in that hurliburly ſlew him, and knew not who he was. Much commended & praiſed is *Cteſiphon* of Gno-
B ſos for his notable knowledge in Architecture, and namely, for the wonderfull frame of *Dianaes* temple at Epheſus. *Philon* likewiſe was highly eſteemed for making the Arſenall at Athens, able to receive a thouſand ſhips. *Cteſibius* alſo was much accounted of for deviſing wind inſtruments: and by the meanes of certaine engines to draw and ſend water to any place. *Dinocrates* moreover the Enginer, immortaliſed his name for caſting the plot, and diviſing the Modell of Alexandria in Ægypt, at what time as *Alexander* the great founded it. To conclude, this mightie prince and commander *Alexander*, ſtreightly forbad by expreſſe edict, That no man ſhould draw his pourtrait in colours, but *Apelles* the painter: that none ſhould engrave his perſonage, but *Pyrgoteles* the graver: and laſt of all, that no workman ſhould caſt his image in braſſe, but *Lyſippus* the founder. In which three feats, many Artiſanes have excelled for their rare workmanſhip.
C

Chap. xxxviii.

Singular workes of Artificers.

KIng *Attalus* cheapened one picture wrought by *Ariſtides* the Thebane painter, and bad a hundaed talents for it. *Cæſar* the Dictatour offered unto *Timomachus* eight talents for two pourtraits, to wit, of *Medea* and *Aiax*, which hee meant to ſet up and conſecrate in the temple of *Venus Genetrix*, *i.* Mother *Venus*. King *Candaules* bought of *Butarchus* a painted table, wherein was drawne the defeature and deſtruction of the Magnetes, which tooke up no great roume, and weighed out the poiſe thereof in good gold. King *Demetrius* ſurnamed *Expugnator*
D [*i.* the conquerour and great forcer of cities] forbare to ſet Rhodes on fire, becauſe hee would not burne one painted table, the handie worke of *Protogenes*. *Praxiteles* was ennobled for a rare Imager, and cutter of ſtones and marble: hee eterniſed his memoriall by making one image of *Venus*, for the Gnidians, ſo lively, that a certaine young man became ſo amorous of it, that he doted for love thereof, and went beſides himſelfe: which peece of worke was eſteemed of ſuch price by king *Nicomedes*, that whereas the Gnidians owed him a great ſum of money, hee would have taken it for full paiment and ſatisfaction of the whole debt. The ſtatue of *Iupiter Olympius* is to be ſeene, and daily commendeth the workeman *Phydias*. *Iupiter* likewiſe *Capitolinus*, and *Diana* in Epheſus yeeld good teſtimonies of *Mentors* cunning: & the tooles or inſtruments of the ſaid workeman were conſecrated (for their exquiſite making) unto them in their temples, and there
E remaine.

Chap. xxxix.

Of ſervants and ſlaves.

IHave not knowne or hard to this day of a man borne a ſlave, that was priſed ſo high as *Daphnis* the Grammarian was: for *Cn. Piſaurenſis* held him at 300700 Seſterces to *M. Scaurus* a great man, and a principall perſon of Rome. Howbeit, in this our age certaine ſtage plaiers have gone beyond this price, and that not a little: marry they were ſuch as had bought out their freedome before, and were not then ſlaves. And no marvell, for wee find upon record, That the great
F actor *Roſcius* in former time might yeerely diſpend by the ſtage 500000 Seſterces. Vnleſſe a man deſire in this place to heare of the Treaſurer and purveiour generall of the armie in Armenia for the late wars of king *Tyridates*, who was enfranchiſed by the meanes of *Nero*, for 120000 Seſterces. But it was the warre that coſt thus much, and not the man. Like as *Sutorius Priſcus* gave unto *Scianus* 3500 Seſterces, for *Pæzon*, one of his guelded Eunuches: for a man would ſay this

was

was more for to satisfie his filthie lust, than for any especiall beautie to be seen in the said *Pæzon*. G
But hee took the vantage of the time, and went cleere away with this impious villanie: for at what time as hee bought him, the citie was in perplexitie and sorrow, and no man for thinking of greater affaires and troubles, had any leisure to find fault or say a word in reproofe of such enormities.

Chap. xl.

The excellencie of Nations.

DOubtlesse it is, and past all question, that of all nations under the sunne, the Romanes excell and are the onely men for all kind of vertues: but to determine who was the happiest man in all the world, it is above the reach of humane wit; considering that some take H
contentment and repose felicitie in this thing, others in that; and every one measureth it according to his severall fancie and affection: but to say a truth and judge aright indeed, laying aside all the glosing flatteries of Fortune, and without courting her to determine this point, There is not a man to be counted happie in this world. Right well it is of our side, and Fortune dealeth in exceeding favour with us, if we may not justly be called unhappie: for, set case there be no other miserie and calamitie besides, yet surely a man is ever in feare least Fortune will frown upon him and doe him a shrewd turne one time or another: and admit this feare once, there can be no sound happinesse and contentment in the mind. What should I say moreover to this, That there is not a man, at all times wise and in his perfect wits? Would God that this were taken of I
most men for a poëts word only, and not a true said saw indeed. But such is the vanitie and follie of poore mortall men, that they flatter themselves, and are verie wittie to deceive themselves, making their accounts and reckonings of good and evill fortune, like to the Thracians; who by certaine white and blacke stones which they cast into a certaine vessell, and there laid up, for the better proofe and triall of every daies fortune; and at their last day and time of death they fall to parting these stones one from another and telling them apart: and according to the number of the white and the blacke, give judgement and pronounce of eeh ones fortune. But what say they to this, that many times it falleth out that the day marked with a white stone for a good day, had in it the beginning and overture of some great misfortune and calamitie? How many a man hath seemed to fall into fortunes lap, and entred upon great empires and dominions, which in the K
end turned to their afflictions and miseries? How many have wee seene overthrowne, punished extreamely, and brought to utter ruine, even by the meanes of their owne good parts and commendable gifts? Certes these be good things and great favours, if a man could make full account to enjoy them but one houre with contentment. But thus verily stands the case, and this is the ordinarie course of this world; one day is the judge of another, and the day of death judgeth and determineth all: and therefore there is no trust in them, neither may wee assure our selves of any. To say nothing of this, That our good fortunes are not in number æquall to our bad: and say there were as many of the one as the other, Is there any one joy and mirth to be weighed in true ballance against the least griefe and sorrow that commeth? Foolish and sottish men that wee L
are with all our curiositie! for we reckon our dayes by tale and number, whereas we should ponder and peise them by weight.

Chap. xli.

Of the highest tipe and pitch of felicitie.

Lampido a Lacedæmonian ladie, is the onely woman that ever was knowne, to have been the daughter to a king, a kings wife, and mother of a king. Also *Pherenice* was knowne alone to be the daughter, sister, and mother to them that wan the victorie and carried away the best prize at the Olympian games. In one house and race of the *Curioes*, there were knowne to have been three excellent oratours one after another, by descent from the father to the sonne. M
The onely familie and line of the *Fabij* affourded three Presidents of the Senate in course, one immediatly under another, to wit, *M. Fabius Ambustus* the father, *Fabius Rullianus* the sonne, and *Q. Fabius Gurges* the nephew.

A

Chap. xlii.

Examples of Fortunes mutabilitie.

INfinite examples otherwise wee have of the varietie and inconstancie of Fortune: for what great joyes to speake of gave she ever, but upon some mishap or other? Againe, the greatest miseries and calamities that have beene, have they not ensued upon the most joyes and contentments?

Chap. xliii.

Of one twise outlawed and out of protection: as also of Q. Metellus, and L. Sylla.

B

FOrtune preserved for sixe and thirtie yeeres *M. Fidustius* a Senator, outlawed by *Sylla*: yet was his hap afterwards to be outlawed the second time: for hee over-lived *Sylla* and continued unto the time of *Marcus Antonius*; and for certaine it is knowne, that by him he was banished and outlawed againe, for no other reason but because hee had been so before time. So kind was Fortune to *P. Ventidius*, as that shee would have him triumph alone over the Parthians: but shee had been before-time so good as to play with him, when shee saw him led (being a boy) as prisoner in *Cn. Pompeius Strabo* his triumph for the defeiture and overthrow of the Asulanes. Although *Massurius* testifieth, that he was so led in triumph as a slave twise; *Cicero* saith,
C that he was at first but a mulitier & drave mules laden with meale for the oven, to serve the camp. Many other affirme, that in his youth he was a poore souldier, and served as a footman in his single trousses and grieves. Moreover, such good fortune had *Balbus Cornelius*, as to be the Senior Consull and declared Elect, before his fellow: but before-time he had been in trouble and judicially accused, yea and a jurie was empanelled to goe of him, so as in daunger he was to be whipped, upon their verdict. Well, this mans hap for all this, was to be the first Romane Consull of forreiners, and namely, Ilanders within the maine ocean: hee (I say) attained to that place of dignitie, which our fore-fathers denyed flatly to the Latines their neighbours. Among other notable examples, *L. Fulvius* may goe for one, who was Consull of the Tusculans when they revolted and rebelled against the Romanes: howbeit forsaking his owne cittizens and returning to
D Rome, was presently by the whole people advaunced to the same honour among them: and hee was the man alone knowne to have triumphed at Rome over them whose Consull hee was, even the same yeere that he was himselfe a Romane enemie in the field. *L. Sylla* was the only man untill our time, that challenged to himselfe the surname of *Felix*, *i.* happie, or fortunate. But how was he adopted as it were into this name? forsooth even by shedding and spilling so much blood of good Romane citizens, and by waging warre against his native country. And whereupon, I pray you, grounded he this happinesse of his, and had so great an opinion thereof, if this were not it, That hee was able to banish, confiscate, and put to death, so many thousand cittizens? O false and deceitfull interpretation, daungerous, unhappie, and pernicious, even to posteritie and the time to come! For were not they more blessed and happie, who then fortuned to loose their
E lives, whose death at this day wee pittie, and whome we take compassion of, than *Sylla*, whome there is no man living at this day but he hateth and abhorreth? Moreover, was not his end more cruell and horrible, than the miserie of all those that by him were outlawed and their goods forfeit? for his owne wretched bodie did eat, gnaw, and consume it selfe, and bred daily and hourely vermine to put the same to paine and torment. And say that hee dissembled all this, and would not be knowne of it; and suppose we gave credit to that last dreame of his (wherein hee lay as it were dead and in a traunce) upon which he gave out this speech, That himselfe and none but he had his glorie to surmount all Envie: yet in this one thing he plainly confessed, That his felicitie came short and was defective, in that he had not time to consecrate the Capitoll temple. *Q. Metellus* in that funerall oration of his which he made in praise and commendation (as the manner
F was) for *L. Metellus* his father, gave these lawdable reports of him, That he had been the soveraigne Pontifie or high priest of Rome, twise Consull, Dictatour, Generall of the horse, one of the 15 Quindecemvirs deputed for division of lands among souldiers and commons, and that in the first Punicke warre hee shewed many Elephants in a triumph: moreover he left in writing, That he had accomplished ten of the greatest and best points belonging to this life; in seeking

whereof

whereof and in atteining thereunto, all the great Sages of the world spend their whole time: G
for (saith hee) his desire was, and therto he aimed, namely, to be a most doubtie and hardie warriour, an excellent orator, a right valiant captaine and commaunder: *Item*, to have the conduct, charge, and execution of the greatest and most important affaires, to be in the highest place of honour, to be singular for wisdome, to be accounted the principall and chiefe in Senat, to come to great wealth and riches by good and lawfull meanes, to leave much faire issue behind him: and to conclude, to be simply the best man of all other, and the noblest personage in the cittie. To these perfections, he and none but he since the time that Rome was Rome, attained. Now to confute this, were a long and needlesse peece of worke, considerering that one onely mischance checked these favours of Fortune, and fully disprooved all: for the very same *Metellus* became blind in his old age: for he lost both his eyes in a skare-fire, at what time as he would have saved H
and got away the Palladium, *i.* the image of *Minerva*, out of the temple of *Vesta*. His act, I confesse, was vertuous and memorable, but the event was ill for him and miserable. In regard whereof, I know not how he should be called unhappie and wretched: and yet I see not why he should be named happie and fortunate. This I must needs say in conclusion, that the people of Rome graunted unto him that priviledge, that never man before him in the world was known to have, namely, to ride in his coach to the Senat-house so oft as hee went to sit at the councell table. A great prerogative I confesse, and most stately, but it was allowed him for the want of his eyes.

Chap. xliiii.

Of another Metellus. I

A Sonne likewise of this *Q. Metellus*, who gave out those commendations aboveſaid of his father, may be put in the ranke of the most rare precedents of felicitie in this world: for over and besides the most honourable dignities and promotions that hee was advaunced unto in his life time, and the glorious addition and surname of *Macedonicus*, which hee got in Macedonie; when he was dead, there attended upon his dead corps at his funerals to interre it, foure sonnes of his; the one Pretor for the time being: the other three had been Consuls in their time: and of these three, two had triumphed in Rome, and the third had ben Censor. These were points, I may tell you, of great marke and regard, and few men are to be found in comparison, that can come to any one of them. And yet see! in the very prime and flower of all these K
honours, it fortuned that *Catinius Labeo* surnamed *Maccrio*, a Tribune or protector of the commons (whome he before-time by vertue of his Censorship had displaced out of the Senat) waited his time when he returned about noone from *Mars* field, and seeing no man stirring in the market place nor about the Capitoll, tooke him away perforce to the cliffe Tarpeius, with a full purpose to pitch him downe headlong from thence, and to breake his necke. A number came running about him of that crew and companie, which was wont to salute him by the name of Father; but not so soone as such a case required, considering this so sodaine an occurrent: and when they were come, went but slowly about any rescue, and kept a soft pace as if they had waited upon some corps to a buriall: and to make resistance and withstand perforce the Tribune, armed with his sacrosanct and inviolable authoritie, they had no warrant by law: in so much as he L
was like to have perished and come to a present mischiefe, even for his vertue and faithfull execution of his Censorship, had there not been one Tribune of ten found, hardly and with much adoe to step betweene, and oppose himselfe against his colleague, and so by good hap rescued him out of his clutches, and saved him as it were at the very pits brinke, even from the utmost point of death. And yet he lived afterwares of the courtesie and liberalitie of other men: for why? all his goods from that day forward, were seized as forfeit and confiscate, by that Tribune whom before-time he had condemned: as if he had not suffred punishment and sorrow enough at his hands, to have his necke so writhed by him, as that the bloud was squeased out at his verie eares. Certes, for mine owne part, I would reckon this for one of his crosses and calamities, That he was an enemie to the later *Africanus Æmylianus*, even by the testimonie and confession of M
Macedonicus himselfe. For after the death of the said *Africanus*, these were his words unto his owne sonnes: Go your waies sirs, and doe honour unto his obsequies, for the funerals of a greater personage and a better cittizen, shall ye never see. And this spake hee to them, when as they had conquered Creta and the Baleare Ilands, and therof wer surnamed *Creticus* and *Balearicus*,

and

A and had worne the lawrell diademe in triumph: being himselfe alreadie entituled with the stile of *Macedonicus*, for the conquest of Macedonie. But if wee consider and weigh that onely wrong and injurie offered unto him by the Tribune, who is it that can justly deeme him happie, being exposed so as he was to the pleasure, mercie, and devotion of his enemie, farre inferiour to *Africanus*, and so to come to confusion? What were all his victories to this one disgrace? what honours and triumphant charriots strooke not fortune downe with her foot, and overturned all againe, or at least wise set not backe againe with this her violent course, suffering a Romane Censor to bee haled and tugged in the very heart of the cittie (the onely way indeed to bring him to his death) to be harried I say up to that capitoll hill, there to make his end, whether aforetime he ascended triumphant, but never committed that outrage upon those prisoners and captives,
B whom he led in triumph, and for whose spoiles he triumphed, as to hale and pul them in that rude sort? And verily, the greater was this outrage, and seemed the more heinous, in regard of the felicitie which afterwards ensued: considering, that this *Macedonicus* was in danger to have lost so great an honour as he had in his solemne and stately sepulture, namely, wherein hee was carried forth to his funerall fire, by his triumphant children, as if hee had triumphed once againe at his very buriall. In summe, that can bee no sound and assured felicitie which is interrupted by any indignitie or disgrace whatsoever, much lesse then by such an one as this was. To conclude, I wot not well whether there be more cause to glorie for the modest carriage of men in those daies, or to greeve at the indignitie of the thing, in that among so many *Metelli* as then were, so audacious a villaine as this was of *Catinius*, was never revenged to this day.

C

Chap. xlv.

Of Augustus Cæsar, late Emperour.

AS touching the late Emperour *Augustus*, whome all the world raungeth in this ranke of men fortunate: if we consider diligently the whol course of his life, we shall find the wheele to have turned often, and perceive many chaunges of variable Fortune. First and formost his owne vncle by the mothers side put him by the Generalship of the horse; and notwithstanding all his earnest suite, preferred *Lepidus* to that place before him: secondly, he was noted and thought hardly of for those outlawries of Romane cittizens, and thereby purchased himselfe
D much hatred and displeasure: tainted also he was for being one of those three in the Triumvirate, yoked and matched with wicked companions and most daungerous members to the weale publick: and this galled him the more, That in this fellowship, the Romane Empire was not equally and indifferently parted among them three, but *Antonie* went away with the greatest share by ods. Also his ill fortune was in the battaile before Philippos to fall sicke, to take his flight; and for three daies, diseased as he was, to lurke and lye hidden within a marrish: whereupon (as *Agrippa* and *Mecænas* do confesse) he grew into a kind of dropsie, so as his belly and sides were puft up and swelled with a waterish humor gotten and spred between the flesh and the skin. Furthermore he suffred shipwracke in Sicily, and there likewise he was glad to skulke within a cave in the ground. What should I say, how when he was put to flight at sea, and the whole power of his ene-
E mies hard at his heels, he besought *Proculeius* in that great danger to rid him out of his life: how he was perplexed for the quarels and contentions at Perusium: in what fear and agonie he was in the battell at Actium (a towne of Albanie,) as also for the issue of the Pannonian war, for the fall of a bridge, and a towne both. So many mutinies among his souldiours: so many daungerous diseases that put him to a plung. The jelousie and suspition that he had evermore of *Marcellus*. The reproch and shame that he sustained for confining and banishing *Agrippa*: his life so many times laid for, by poison and other secret traines: the death of his children, suspected to have beene wrought by indirect meanes: the double sorrow and greefe of heart thereby: and not altogether for his childlesse estate: the adulterie of his owne daughter, and her purpose of taking his life away, detected and made knowne to the world: the reprochfull departure and slipping aside of *Ne-*
F *ro*, his wives sonne: another adulterie committed by one of his neeces. Over and above all this, thus many crosses more and troubles comming one in the necke of another: namely, want of pay for his souldiours: the rebellion of Slavonia: the mustering of slaves and bond-servants to make up his armie, for want of other able youths to levie unto the warres: pestilence in Rome citie: famine & drought universally through Italie: and that which more is, a deliberate purpose

and

and resolution of his to famish and pine himselfe to death, having to that end fasted 4 dayes and foure nights, and in that time received into his bodie the greater part of his own death. Besides, the overthrow and rout of *Varius* and his forces, the foule staine and blemish to the touch of his honour and majestie very neer: the putting away of *Posthumius Agrippa* after his adoption, and the misse that he had of him after his banishment: then, the suspicion that he conceived of *Fabius*, for disclosing his secrets: adde hereto, the opinion and conceit that he tooke of his owne wife and *Tiberius*, which surpassed all his other cares. To conclude, that god, and hee who I wot not whether he obtained heaven or deserved it more, departed this life, and left behind him for his heire to the crowne, his enemies sonne.

Chap. xlvi.

Whome the Gods iudge most happie.

I Cannot over-passe in this discourse and consideration, the Oracles of Delphos, delivered from that heavenly god to chastise and represse as it were, the folly and vanitie of men: and two there be which give answer to the point in question, after this manner: First, that *Pheäus* (who but a while before died in the service of his countrey) was most happie. Moreover, *Gyges* (the most puissant K. in those daies of al the earth) sent a second time to know of the Oracle, Who was the happiest man next him? and answer was made, That *Aglaus Psophidius* was happier than the former: now this *Aglaus* was a good honest man well stept in yeeres, dwelling in a very narrow corner of Arcadia, where he had a little house and land of his own, sufficient with the yeerly commodities thereof to maintaine him plentifully with ease; out of which hee never went, but employed himselfe in the tillage and husbandrie thereof, to make the best benefite he could: in such sort, that (as it appeared by that course of life) as he coveted least, so he felt as little trouble and adversitie while he lived.

Chap. xlvii.

Who was canonized a god, here upon earth living.

BY the ordinance and appointment of the same Oracle, as also by the assent and approbation of *Iupiter* the soveraigne God, *Euthymus* the famous wrestler (who evermore wan the best prize at Olympia, save once) was reputed and consecrated a god whiles he lived, and knew thereof: borne he was at Locri in Italie, where one statue of his, as also another at Olympia, were both upon one day strucken with lightning: whereof I see *Callimachus* wondred at, as if nothing else were worthie admiration, and gave order that he should be sacrificed unto as a god: which was performed accordingly, both whiles he lived and after he was dead. A thing, that I marveile more at than any thing else, That the gods were therewith contented, and would permit such a dishonour to their majestie.

Chap. xlviii.

Of the longest lives.

THe tearme and length of mans life is uncertein, not only by reason of the diversitie of climats, but also because the Historians have delivered such varietie of mens ages, and every man by himselfe hath a severall time limited unto him, at the very day of his nativitie. *Hesiodus*, the first writer (as I take it) who hath treated of this argument, and yet like a poët, in his fabulous discourse as touching the age of man, saith forsooth, That a crow liveth 9 times as long as we; and the harts or stags 4 times as long as the crow; but the ravens thrice as long as they. As for his other reports as touching the Nymphes and the bird Phœnix, they are more like poëticall tales, than historicall narrations. *Anacreon* the poët maketh report, that *Arganthonius* king of the Tartessians, lived 150 yeeres: and *Cynaras* likewise king of the Cyprians, ten yeeres longer. *Theopompus* affirmeth, that *Epimenides* the Gnossian, died when he was 157 yeeres old. *Hellanicus* hath written, that among the Epians in Ætolia, there be some that continue ful two hundred yeeres: and with him accordeth *Damastes*; adding moreover, that there was one *Pictoreus* among them, a man of exceeding stature, mightie and strong withall, who lived 300 yeeres.

Ephorus

A *Ephorus* testifieth, that ordinarily the KK. of Arcadia were 300 yeers old ere they died. *Alexander Cornelius* writeth of one *Dando* a Sclavonian, that lived 500 yeers. *Xenophon* in his treatise of old age, maketh mention of a king of the Latines, or as some say, over a people upon the sea coasts, who continued alive 600 yeeres: and because he had not lied loud enough already, he goeth on still and saith, That his sonne came to 800. All these strange reports proceed from the ignorance of the times past, and for want of knowledge how they made their account: for some reckoned the summer for one yeere, and the winter for another. There were againe, that reckoned everie quarter for a yeer, as the Arcadians, whose yeere was but three moneths. We shall have some, and namely the Ægyptians, that count every chaunge or new moone, for a yeere: and therefore no marveile if some of them are reported to have lived 1000 yeeres. But to passe from these uncer-
B teinties to things confessed and doubtlesse, held it is in manner for a certaine truth, that *Arganthinus* king of Calis, reigned full 80 yeeres: and it is supposed, that 40 yeeres old he was when he came first to the crowne. And as undoubted true it is, that *Masanissa* ware the crowne 60 yeeres: as also that *Gorgias* the Sicilian lived untill hee was 108 yeeres old. As for *Q. Fabius Maximus* (a Romane) he continued Augure 63 yeeres. *M. Perpenna*, and of late daies *L. Volusius Saturninus*, out-lived all those Senators who sat in counsell with them when they were Consuls, & whose opinions they were wont to aske. As for *Perpenna*, when he died, left but 7 of those Senators alive whom he had either chosen or re-elected in his Censorship: & he lived himself 98 yeers. Where by the way one thing commeth unto my mind worth the noting, That one Lustrum or 5 yeeres
C space there was, and never but one, in which there died not a Roman Senator: and that was from the time that *Flaccus* and *Albinus* the Censors, finished their survey and solemnly purged the citie after the order, unto the comming in of the next new Censors; which was from the yeere after the foundation of Rome 579. *M. Valerius Corvinus* lived 100 yeers complet: between his first Consulate and sixt, were 46 yeers: he tooke his seat upon the yvorie chaire of estate, and was created a magistrate Curule 21 times; and no man ever besides him, so often. *Metellus* the Pontifie or soveraigne Priest, lived full as long as he.

To come now to women: *Livia* the wife of *Rutilius* lived 97 yeers with the better. *Statilia* a noble ladie of Rome, in the time of *Claudius* the Emperor, was knowne to be 99 yeers of age. *Ciceroes* wife *Terentia* out-lived her husband, untill she was 103 yeers old. *Clodia* wife to *Osilius*, went beyond her, and saw 115 yeers, and yet she had in her youth 15 children. *Lucein* a common vice
D in a play, followed the stage and acted thereupon 100 yeeres. Such another vice that plaied the foole and made sport betweene whiles in enterludes, named *Galeria Copiola*, was brought againe to act her feats upon the stage, when *Cn. Pompeius* and *Q. Sulpitius* were Consuls, at the solemne plaies vowed for the health of *Augustus Cæsar* the Emperour, when she was in the 104 yeere of her age: the first time that ever she entred the stage to shew proofe of her skill in that profession, was 91 yeers before, and then she was brought thither by *M. Pomponius* an Ædile of the Commons, in the yeere that *C. Marius* and *Cn. Carbo* were Consuls. And once againe *Pompeius* the Great, at the solemne dedication of his stately Theatre, trained the old woman to the stage for to make a shew, to the wonder of the world. Moreover, *Asconius Pædianus* is mine author, that one *Samula* lived 110 yeeres: and therefore I marveile the lesse, that one *Stephanio* (who was the
E first of the long robe that brought up dauncing and footing upon the stage) plaied his part and daunced in both the Secular plaies, as well those that were set out by *Augustus* late Emperour, as which *Claudius Cæsar* exhibited in his 4 Consulate, considering that betweene the one and the other there were but 63 yeeres: and yet lived *Stephanio* many a day after. *Mutianus* witnesseth, that in Tempsis (for so they call the crest or pitch of the mountaine Tmolus) folke lived ordinarily 150 yeeres. At that age, *T. Fullonius* of Bononia entred his name into the subsidie booke, at the time that *Claudius Cæsar* held the generall taxe: and that hee was so old indeed, appeared truly as well upon record in the Registers office, by conferring and laying togither severall paiments that he had made from time to time, as also by certain things that he had seen and known done in his life time (for the Emperor had a special care & regard that way to find out the truth.)

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Chap. xlix. *Of the divers Horoscopes, or nativities of men.*

THis point would require the conference and advice of Astrologers: for *Epigenes* saith, that it is not possible for a man to live an hundred and two and twentie yeeres: and *Berosus* is of opinion, that one cannot passe an hundred and seventeene. The proportion and reckoning

koning holdeth still for good which *Petosiris* and *Necepsos* calculated and grounded upon their Quadrant, which they call *Tetartemorion*, that is to say, the compasse in the Zodiacke of three signes (Orientall, which determine of the life or death of men) according to which account it is evident, that in the tract or climat of Italie, men may reach to a hundred twentie and six yeeres. The above-named Astrologers affirmed, that a man could not possibly passe the space of 90 degrees from the Ascendent or erection of his nativitie (which they call Anaphoras) and that even this course through the degrees of three signes, is many times interrupted and cut short, either by the opposition and encounter of some wicked planets, or by the maligne aspects of them or the sunne. On the other side, *Asclepiades* and his sect affirme, that the length of our life proceedeth from the influence of the [fixed] starres: but as touching the utmost tearme therof, they set downe nothing definitively: mary thus much they say, That the fewer sort of men live any long time; for that the greatest number by farre, have their nativitie incident and liable to the daungerous houres and times either of the moones occurrence (as in her Quadrature, Opposition, and Sextile aspect) or of daies according to the number of seven or nine (which are daily and nightly marked and observed:) wherupon ensueth the rule of the dangerous graduall yeers, called Climactericke: and such as are in that wise borne, lightly live not above foure and fiftie yeeres. But here may wee see by the doubtfulnesse and incertitude of this Science of Astrologie, how uncertein this whole matter is which we have in hand. Over and besides, we found the contrarie by experience, and many examples; and namely, in the last taxation, numbring, and review of the provinces subject to Rome within Italie, that was taken under the *Cæsars Vespasians* the father and the sonne, both Emperours and Censors. And here we need not to search everie corner, and to ransacke every place narrowly; wee will onely give instance and set downe the examples of the one moitie thereof, namely that tract which lyeth betweene Apennine and the Po. At Parma, three men were found that lived a hundred and twentie yeeres: at Brixels, one that was an hundred twentie and five yeeres old: at Parma moreover two, an hundred and thirtie yeeres of age: at Plaisance, one elder by a yeere: at Faventia, there was one woman an hundred thirtie and two yeers old: at Bononie, *L. Terentius* the sonne of *Marcus*, and at Ariminum *M. Aponius*, reckoned each of them an hundred and fiftie yeeres. *Tertulla* was knowne to be an hundred thirtie and seven yeeres old. About Plaisance, there is a towne situate upon the hills, named Velleiacium, wherein six men brought a certificate, that they had lived an hundred yeeres apeece: foure likewise came in with a note of an hundred and twentie yeeres: one, of an hundred and fourteen, namely *M. Mutius* sonne of *Marcus* surnamed *Galerius Fælix*. But because we will not dwell long in a matter so evident and commonly confessed: in the review taken of the eigth region of Italie, there were found in the roll, foure and fiftie persons of an hundred yeeres of age: 57, of an hundred and ten: two, of an hundred and five and twentie: foure, of an hundred and thirtie: as many that were 135 or 137 yeeres old: and last of all, three men of an hundred and fortie. Let us leave these ages, and consider a while another inconstant varietie in the nature of mortall men: *Homer* maketh report, that *Hector* and *Polydamas* were borne in one night, men so different in nature and qualitie. Whiles *C. Marius* was Consull and *Cn. Carbo* with him, who had beene twise before Consull, the fifth day before the calends of Iune, *M. Cæcilius Ruffus* and *C. Licinius Calvus* were borne upon a day, and both of them verily prooved great Oratours: but they sped not alike, but mightily differed one from the other in the end. And this is a thing seene daily to happen throughout the world, considering that in one houre kings and beggers are borne, likewise lords and slaves.

Chap. l.

Sundrie examples of divers diseases.

Pvb. Cornelius Rufus, who was Consull togither with *M. Curius*, dreamed that hee had lost his sight: and it prooved true indeed, for in his sleepe he became blind and never saw again. Contrariwise *Phalereus* [or *Iason Phæreus*] being given over by the Physicions for an impostume that he had in his chest, in despaire of all health (purposing to kill himselfe for to be rid out of his paine) stabbed his breast with a knife; but he found this deadly enemie to be his onely Physicion. *Q. Fabius Maximus* being long sicke of a quartane ague, strucke a battaile with the people of Savoy and Auvergne neer the river Isara, upon the sixt day before the Ides of August, wherein

A wherein hee slew of his enemies 13000, and therewith was delivered from his fever, and never had fit more. Certes, this gift of life that wee have from Nature, be it more or be it lesse, is fraile and uncertein: and say that it be given to any in largest measure; it is but scant yet and very short, yea and of small use, if we consider the whole course thereof from the beginning to the end. For first, if we count our repose and sleepe in the night season, a man may be truly said to live but the one halfe of his life: for surely a good moitie and halfe deale thereof which is spent in sleeping, may be likened well to death: and if hee cannot sleepe, it is a paine of all paines and a very punishment. I reckon not in this place the yeeres of our infancie, which age is void of reason and sense; ne yet of old age, which the longer that it continueth, the more are they plagued that be in it. What should I speake of so many kinds of daungers, so many diseases, so many feares, so
B many pensive cares, so many prayers for death, as that in manner we pray for nothing oftner? In which regards, how can a man be said to live the while? and therefore Nature knoweth not what better thing to give a man, than short life. First and formost, the senses waxe dull, the members and limmes grow benummed, the eye-sight decayeth betimes, the hearing followeth soon after, then faile the supporters, the teeth also and the verie instruments that serve for our food and nourishment: and yet forsooth, all this time so full of griefe and infirmities, is counted a part of our life. Hereupon it is taken for a miraculous example, and that to which againe we cannot find a fellow, That *Xenophilus* the musitian lived 105 yeeres, without any sickenesse or defect in all his bodie. For all other men, beleeve me, are vexed at certaine houres (like as no other creatures besides) with the pestiferous heats and shaking colds of the fever in every joynt, sinew,
C and muskle of the bodie, which goe and come, keeping their times in their severall fits, not for certaine houres in a day onely, but from one day to another, and from night to night; one while every third day or night, other-whiles everie fourth, yea and sometime a whole yeere togither. Moreover, what is it but a very disease, To know the time and houre of a mans owne death, and so to die forsooth in wisdome? For maladies there be, in which Nature hath set downe certaine rules and laws: and namely, a quartane fever never lightly beginneth in the shortest daies of the yeere, neither in the three moneths of winter, [to wit, December, Ianuarie, and Februarie.] Some diseases are not incident to those that are above 60 yeeres of age: others againe, do end and passe away when youths begin to be under-growne, and especially this is observed in young maidens. Moreover, old folke of all other are least subject to take the plague. Furthermore, sick-
D nesses there be, that follow this region or that, assailing and infecting the inhabitants generally therein. There be some againe, that surprize and take hold of servants onely, both all and some: others touch the best persons alone of the highest calling, and so from degree to degree. But in this place, observed usually it is by experience, That a pestilence beginning in the South parts, goeth alwaies toward the West; and never lightly but in winter, neither continueth it above three moneths.

Chap. LI.

Of the signes of death.

E NOw let us take a view of deadly tokens in sickenesse. In rage and furious madnesse, to laugh is a mortall signe. In phrensie, wherein men are bestraught of their right wits, to have a care of the skirts, fringes, and welts of their garments, that they be in good order; to keepe a fumbling and pleiting of the bed-cloths; the neglect of such things as would trouble them in their sleepe and breake it; the voluntarie letting goe of their water; prognosticate death. A man may see death also in the eies and nose most certainly of all other parts: as also in the manner of lying; as namely, when the patient lieth alwaies upon his backe with his face upward. We gather signes also, by the uneven stroke of the arterie: as also when the pulse beateth so under the Physicians hand, as if he felt an ant creeping under it. Other signes moreover there be which *Hippocrates*, the prince and cheefe of all Physicians, hath very well observed and set down. Now,
F whereas there bee an infinite number of signes that presage death: there is not knowne so much as one that can assure a man certainely of life and health. For *Cato* that famous Censor, writing to his sonne as touching this argument, hath delivered, as it were out of an Oracle, That there is an observation of death to be collected even in them that are in perfect health. For (saith hee) youth resembling age, is an undoubted signe of untimely death, or short life. As for diseases, they

* i. Life.

are so innumerable, that *Pherecydes* of the Iland Syros, died of a great quantitie of * creepers that came crawling out of his bodie. Some are knowne to be never free of the ague, as *C. Mecœnas*. The same man for three yeeres together, before he died, never laid his eies together for sleep the minute of an houre. *Antipater Sidonius* the poet, once a yeere during his life, had an ague-fit upon his birth day onely. He lived for all that to be an old man, and upon the day of his nativitie died in such a fit.

Chap. lii.

Of such as were carried forth upon the biers to be buried, and revived againe.

A *Viola*, one that had been Consull, came againe to himselfe when he was cast or put into the funerall fire to be burnt: but becaus̃e the flame was so strong that no man could come neere to recover him, burnt he was quick. The like accident (as it is reported) befell to *Lu. Lamia*, Pretour lately before. As for *C. Ælius Tubero*, that he was brought alive againe from the like fire, after he had been Pretour of Rome, both *Messala Rufus*, and many besides, doe constantly affirme. See how it goeth with mortall men: see, I say, our uncertaine state and condition, and how wee are borne, exposed, and subject to these and such like occasions of fortune: insomuch, as in the case of man, there is not any assurance at all, no not in his death. We read in Chronicles, that the ghost of *Hermotimus Clazomenius* was woont usually to abandon his bodie for a time, and wandering up and downe into farre countries, used to bring him newes from remote places, of such things as could not possibly bee knowne, unlesse it had been present there: and all the while his bodie lay, as it were, halfe dead in a traunce. This manner it continued so long, untill the Cantharidæ, who were his mortall enemies, tooke his bodie upon a time in that extasie, and burnt it to ashes: and by that meanes disappointed his poor soule when it came back again, of that sheath, as it were, or case, where shee meant to bestow her selfe. Moreover, wee find in records, That the spirit or ghost of *Aristæas* in the Iland Proconnesus, was seene evidently to flie out at his mouth in forme of a raven; and many a like tale followeth thereupon. For surely I take it to be no better than a fable, which is in like manner reported of *Epimenides* the Gnosian; namely, that when he was a boy, he being for heat and travell in his journey all wearie, laid him downe in a certaine cave, and there slept 57 yeeres. At length he wakened as it were upon the next morrow, and wondered at such a suddaine chaunge of every thing that hee saw in the world, as if hee had taken but one nights sleepe. Hereupon forsooth, in as many daies after, as hee slept yeeres, hee waxed old. Howbeit hee lived in all 175 yeeres. But to returne unto our former discourse, women of all others by reason of their sex, are subject to this daunger, to bee reputed for dead, when there is life within them: and namely, by occasion of the disease of the Matrice, called the rising of the Mother: which, if it be brought againe and settled streight in the place, they soone recover and take breath again. Not impertinent to this treatise, is that notable and elegant book among the Greekes, compiled by *Heraclides*, where he writeth of a woman, that for a seven-night lay for dead, and fetched not her breath sensibly, who in the end was raised againe to life. Moreover, *Varro* reporteth, That upon a time when the twentie deputed commissioners were deviding lands in the territorie of Capua, there was one there carried forth in his bier to be burnt, & came home againe upon his feet. Also, that the like happened at Aquinum. Likewise, that in Rome one *Corfidius* who had married his owne aunt by the mothers side, after he had taken order for his funerals, and set out a certaine allowance therefore, seemed to yeeld up his ghost and die: howbeit he revived againe, and it was his chaunce to carie him forth indeed to buriall, who had provided the furniture before for his funerall. This *Varro* writeth besides, of other miraculous matters, which verily are worth the rehearsall at large. One of them is this. Two brethren there were, by birth and calling gentlemen of Rome: whereof the elder named *Corfidius*, happened (in all apparance) to die: and when his last will and testament was once opened and published, the younger brother, who was his heire, was verie busie and readie to set forward his funerall. In the meane while the man that seemed dead, fell to clap one hand against the other, and therewith raised the servants in the house: when they were come about him, hee recounted unto them, that hee was come from his younger brother, who had recommended his daughter to his tuition and guardenage: and moreover had shewed and declared unto him in what place hee had hidden certaine gold

A gold under the ground, without the privitie of any man: requesting him withall, to employ that funerall provision which he had prepared for him, about his owne buriall and sepulture. As hee was relating this matter, his brothers servitors came in great hast to the house of this elder brother, and brought word, that their maister was departed this life: and the treasure beforesaid was found in the place accordingly. And verily, there is nothing more common in our daily speech than of these divinations, but they are not to be weighed in equall ballance with these, nor to bee reported or credited all so confidently. For as much as for the most part they are meere lies, as we will prove by one notable example. In the Sicilian voiage it fortuned, that *Gabienus*, one of the braveſt servitours that *Cæsar* had at sea, was taken prisoner by *Sex. Pompeius*: and by commaundement from him, his head was stricken off in a manner, and scarce hung to the necke by the skin,
B and so lay he all day long upon the sands in the shore. When it grew toward the evening, & that a companie were flocked about him, hee fetched a great grone, and requested that *Pompeius* would come unto him, or at leastwise send some one of his deere familiars that were neere unto him: and why? Come I am (quoth he) from the infernall spirits beneath, and have a message to deliver unto him. Then *Pompey* sent divers of his friends to the man, unto whom *Gabienius* related in this manner, That the infernall gods were well pleased with the just quarrell and cause of *Pompey*: and therefore hee should have as good an issue thereof as hee could wish. Thus much (quoth he) was I charged & commanded to deliver. And for a better proofe of the truth in effect, so soon as I have done mine errand, I shall forthwith yeeld up the ghost. And so it came to passe indeed. Histories also make mention of them that have appeared after they were committed to earth.
C But our purpose is to write of Natures workes, and not to prosecute such miraculous and prodigious matters.

Chap. liii.

Of suddaine deaths.

AS for suddaine death, that is to say, the greatest felicitie and happinesse that can fall unto a man; many examples we have thereof, that alwaies seeme strange and marvellous, notwithstanding they are common. *Verrius* hath set forth a number of them, but I will keepe within a meane, and make choise of them all. Besides *Chilon* the Lacedæmonian, of whom wee
D spake before, there died suddainely for very joy *Sophocles* the Poet; and *Denis*, a king or tyrant of Sicilie: both of them upon tidings brought unto them, that they had won the best price among the tragicall Poëts. Presently after that famous defeature at Cannæ, a mother died immediately upon the sight of her sonne alive, whom by a false messenger shee heard to have beene slaine in that battel. *Diodorus* a great professed Logician, for very shame that he could not readily assoile a frivolous question, nor answere to some demands proposed by *Stilbo*, swouned and never came againe. Without any apparent cause at all that could be seene, divers have left their life: namely, two of the *Cæsars*, the one Pretour for the time being: the other who had borne that dignitie, the father of *Cæsar* the Dictatour: both of them in the morning when they were new risen, and putting on their shoes: the one at Pisæ, the former at Rome. In like manner *Q. Fabius Maximus*
E in his very Consulship, upon the last day of December, [which was the last also of his magistracie, if hee had lived longer] in whose place *Rebilus* made suit to bee Consull, for a very few houres that remained of that yeere. Semblably, *C. Vulcatius Gurges* a Senatour. All of them in perfect health, so lustie and well liking, that they thought to goe forth presently, and of nothing lesse than to die before. *Q. Æmylius Lepidus*, even as he was going out of his bed-chamber, hit his great toa against the dore sille, and therewith died. *C. Ausidius* was gotten forth of his house, and as hee was going to the Senate, stumbled with his foot in the Comitium or common place of assemblies, and died in the place. Moreover, a certaine Embassadour of the Rhodians, who had to the great admiration of all that were present, pleaded their cause before the Senate, in the very entrie of the Counsell house, as he was going forth, fell downe dead, and never spake word.
F *Cn. Bæbius Pamphilus*, who had been Pretour, died suddainely, as he was asking a boy what it was a clocke. *A. Pompeius*, so soone as he had worshipped the gods in the Capitoll, and said his Oraisons, immediately died. So did *M. Iuventius Talva* the Consull, as he was sacrificing. And *Caius Servilius Pansa*, as hee stood at a shop in the market place, about eight of the clo. ke in the morning, leaning upon his brother *P. Pansa* his shoulders. *Bæbius* the judge, as hee was adjour-

ning the day of ones apparence in the court. *M. Terentius Corax*, whiles he was writing of letters in the market place. No longer since than the very last yeere, a knight of Rome, as he was talking with another that had been Consull, and rounding him in the eare, fell downe starke dead: and this happened before the yvorie statue of *Apollo*, which standeth in the Forum of *Augustus*. But above all others it is straunge, that *C. Iulius* a Chyrurgian, should die as he was dressing of a sore eie with a salve, and drawing his instrument along the eie. What should I say of *L. Manlius Torquatus*, a man who had beene sometime Consull, whose hap was to die sitting at supper, even in reaching for a cake or wafer upon the bourd. *L. Durius Valla* the Physician, died whiles hee was drinking a potion of mede or sweet honnie-wine. *Appius Anfeius* being come out of the Baine, after he had drunke a draught of honied wine, as hee was supping of a rere egge, died. *P. Quintius Scapula*, as he was at supper in *Aquillius Gallus* his house. *Decimus Saufeius* the Scribe, as hee sat at dinner in his owne house. *Cornelius Gallus*, one who had beene lord Pretour, and *T. Ætherius* a Romane knight, died both in the very act of *Venus*, whiles they lay upon women. The like befell in our daies to two gentlemen of Rome, who died both as they were dealing contrarie to kind with one and the same counterfet jester named *Mithycus*, a youth in those daies of surpassing beautie. But of all others, *M. Ofilius Hilarus* an actor and plaier in Comedies, as it is reported by auncient writers, died most secure of death, and with the greatest circumstances about it. For after he had done much pleasure to the people, and made them sport to their contentment upon his birth day, he kept a feast at home in his house: and when the supper was set forth upon the table, he called for a messe of hot broth in a porrenger to drinke of: and withall, casting his eie upon the maske or visor that he put on that day, fitted it againe to his visage, and took off the chaplet or guirland from his bare head, and set it thereupon: in this habite, disguised as he sat, hee was starke dead and key cold before any man perceived it: untill he that leaned next unto him at the bourd, put him in mind of his pottage that it cooled, and when he made no answere again, they found in what case he was. These examples all be of happie deaths. But contrariwise, there bee an infinite number of those that are as miserable and unfortunate. *L. Domitius*, a man descended of a most noble house and parentage, being vanquished by *Cæsar* before Marseils, and taken prisoner at Corfinium by the same *Cæsar*, for very irksomenesse of his tedious life, poysoned himselfe: but after he had drunke the poyson, repented of that which he had done, and did all that ever he could to live still, but it would not be. Wee find upon record in the publicke registers, That when *Felix* one of the carnation or flesh colour liverie, that ran with charriots in the great cirque or shew-place, was had forth dead to be burnt, one of his favourites and consorts flung himselfe into his funerall fire for companie. A frivolous and small matter it is to speake of: but they of the other side that tooke part with the adverse faction of other liveries, because this act should not turne to the honour and credite of their concurrent the active Charotier abovenamed, gave it out and said, That this friend and well-willer of his, did it not for love, but that his head was intoxicate with the strong savor of the incense and odours that were in the fire, and so being beside himselfe, did he wist not what. Not long before that this chanced, *M. Lepidus*, a gentleman of Rome, and descended of a most noble familie, who (as is abovesaid) died for thought and greefe of heart that he had divorced his wife, was by the violent force of the flame cast forth of the funerall fire: and because of the extreame heat thereof, no man could come neere to lay his corps againe in the place where it was and should be: they were faine to make another fire hard by of drie vine cuttings, and such like stickes, and so he was burnt bare and naked as he was.

Chap. lviii.

Of Buriall and Sepulture.

TO burne the bodies of the dead, hath been no auncient custome among the Romanes: the manner was in old time to enterre them. But after that they were given once to understand that the corses of men slaine in the warres a farre off, and buried in those parts, were taken forth of the earth againe, ordained it was to burne them. And yet many families kept them still to the old guise and ceremonie of committing their dead to the earth: as namely, the house of the *Cornely*, whereof there was not one by report burnt before *L. Sylla* the Dictatour. And hee willed it expressely, & provided for it aforehand, for feare himselfe should be so served as *C. Marius* was, whose corpes he caused to be digged up after it was buried. Now in Latine, hee is said to

bee

A bee *Sepultus*, that is beſtowed or buried any way, it makes no matter how: but *humatus* properly, who is enterred onely, or committed to the earth.

Chap. lv.

Of the ghoſts or ſpirits of men departed.

AFter men are buried, great diverſitie there is in opinion, what is become of their ſouls and ghoſts, wandering ſome this way, and others that. But this is generally held, that in what eſtate they were before men were borne, in the ſame they remain when they are dead. For neither body nor ſoule hath any more ſence after our dying day, than they had before the day of
B our nativitie. But ſuch is the follie and vanitie of men, that it extendeth ſtill even to the future time, yea, and in the very time of death flattereth it ſelfe with fond imaginations, and dreaming of I wot not what life after this. For ſome attribute immortalitie to the ſoule: others deviſe a certaine transfiguration thereof. And there be againe who ſuppoſe, that the ghoſts ſequeſtred from the bodie, have ſence: whereupon they do them honour and worſhip, making a god of him that is not ſo much as a man. As if the manner of mens breathing differed from that in other living creatures: or as if there were not to bee found many other things in the world, that live much longer than men, and yet no man judgeth in them the like immortalitie. But ſhew mee what is the ſubſtance and bodie as it were of the ſoule by it ſelfe? what kind of matter is it apart from the bodie? where lieth her cogitation that ſhe hath? how is her ſeeing, how is her hearing perfor-
C med? what toucheth ſhe? nay, what doth ſhe at all? How is ſhe emploied? or if there bee in her none of all this, what goodneſſe can there be without the ſame? But I would know where ſhe ſetleth and hath her abiding place after her departure from the bodie? and what an infinite multitude of ſoules like ſhaddowes would there be, in ſo many ages, as well paſt as to come? now ſurely theſe be but fantaſticall, fooliſh, and childiſh toies: deviſed by men that would fain live alwaies, and never make an end. The like foolerie there is in preſerving the bodies of dead men. And the vanitie of *Democritus* is no leſſe, who promiſed a reſurrection thereof, and yet himſelfe could never riſe againe. And what a follie is this of all follies to thinke (in a miſcheefe) that death ſhould bee the way to a ſecond life? what repoſe and reſt ſhould ever men have that are borne of a wo-
D man, if their ſoules ſhould remaine in heaven above with ſence, while their ſhaddowes tarried beneath among the infernall wights? Certes, theſe ſweet inducements and pleaſing perſuaſions, this fooliſh credulitie and light-beleefe, marreth the benefite of the beſt gift of Nature, to wit, Death: it doubleth beſides the paine of a man that is to die, if he happen to thinke and conſider what ſhall betide him the time to come. For if it bee ſweet and pleaſant to live, what pleaſure and contentment can one have, that hath once lived, and now doth not. But how much more eaſe and greater ſecuritie were it for each man to beleeve himſelfe in this point, to gather reaſons, and to ground his reſolution and aſſurance upon the experience that hee had before hee was borne?

Chap. lvi.

E

The firſt inventers of diverſe things.

BEfore wee depart from this diſcourſe of mens nature, me thinkes it were meet and convenient to ſhew their ſundrie inventions, and what each man hath deviſed in this world. In the firſt place, prince *Bacchus* brought up buying and ſelling: he it was alſo that deviſed the diademe that roiall enſigne and ornament, and the manner of triumph. Dame *Ceres* was the firſt that ſhewed the way of ſowing corne, whereas beforetime men lived of maſt. Shee taught alſo, how to grind corne, to knead dough, and make bread thereof, in the land of Attica, Italie, and Sicilie: for which benefite to mankind, reputed ſhee was a goddeſſe. Shee it was that began to make lawes, howſoever others have thought, that *Rhadamanthus* was the firſt law-giver. As
F for letters, I am of opinion, that they were in Aſſyria from the beginning, time out of mind: but ſome thinke, and namely *Gellius*, that they were deviſed by *Mercurie* in Ægypt, but others ſay they came firſt from Syria. True it is, that *Cadmus* brought with him into Greece from Phœnice to the number of ſixteene, unto which, *Palamedes* in the time of the Trojane warre added foure more in theſe characters following, Θ. Ξ. Φ. Χ. And after him *Simonides Melicus* came with other

other foure, to wit, Ξ.Ψ.Υ.Ω. the force of all which letters we acknowledge and see evidently expressed in our Latine Alphaphet. *Aristotle* is rather of mind, that there were eighteene letters in the Greeke Alphaphet from the beginning, namely, Α.Β.Γ.Δ.Ε.Ζ.Ι.Κ.Λ.Μ.Ν.Ο.Π.Ρ.Σ.Τ.Υ.Φ, and that the other two Θ. and Χ. were set too by *Epicharmus*, and not by *Palamedes*. *Anticlides* writeth, That one in Ægypt named *Menon*, was the inventor of letters, fifteene yeers before the time of *Phoroneus*, the most auncient king of Greece: and he goeth about to prove the same by auncient records and monuments out of histories. Contrariwise, *Epigenes*, an authour as renowmed, and of as good credite as any other, sheweth, that among the Babylonians there were found Ephemerides containining the observation of the stars, for 720 yeeres, written in brickes & tiles: and they that speake of the least, to wit, *Berosus* and *Critodemus*, report the like for 480 yeeres. Whereby it appeareth evidently, that letters were alwaies in use, time out of mind. The first that brought the Alphabet into Latium or Italie, were the Pelasgians. *Euryalus* and *Hyperbius*, two brethren at Athens, caused the first bricke and tile kils, yea, and houses therof to be made: whereas before their time men dwelt in holes and caves within the ground. *Gellius* is of opinion, that *Doxius*, the sonne of *Cœlus*, devised the first houses that were made of earth and cley: taking his patterne from swallowes and Martines neasts. *Cecrops* founded the first towne that ever was, and called it after his own name Cecropia: which at this day is the castle or citadell in Athens. Some will have that Argos was built before it, by king *Phoroneus*: and others againe, that Sycione was before them both. And the Ægyptians affirme, That long before that, their citie Diospolis was founded. *Cinyra*, the sonne of *Agriopa*, devised tiling and slating of houses first, as also found out the brasse mines: both, within the Isle Cyprus. He invented besides pinsers, hammers, yron crows, and the Anvil or Stithe. *Danaus* sunk the first pits for wels in Greece, which then was called Argos Dipsion: & sailed out of Ægypt thither, for that purpose. *Cadmus* at Thebes (or, as *Theophrastus* saith) in Phœnice, found out stone quarries first. *Thrason* was the first builder of towne walls: of towers and fortresses, the Cyclopes, as *Aristotle* thinketh: but the Tyrinthians, according to *Theophrastus*. Weaving was the invention of the Ægyptians: and dying wooll, of the Lydians in Sardis. *Closter* the sonne of *Arachne* taught the first making of the spindle for woollen yearne: and *Arachne* her selfe was the first spinner of flax thred, the weaver of linnen, and of nets. *Niceas* the Megarean devised the fullers craft: *Boethius* shewed the art of sowing, as well for tailors, as Corviners and shoemakers. The Ægyptians would have the skill of physicke to have beene first among them: but others affirme, That *Arabus*, the son of *Babylon* & *Apollo*, was the author thereof. The first Herbarist and Apothecarie, renowmed for the knowledge of simples, & composition of medicines, was *Chiron*, son of *Saturne* and *Phyllira*. *Aristotle* thinketh, that *Lydus* the Scythian taught the feat of casting and melting brasse, with the tempering also of the same: howbeit, *Theophrastus* saith it was *Delas* the Phrygian. As for the forges and furnaces of brasse, some think the Chalypes devised, others attribute that to the Cyclopes. The discoverie of the yron and steele mines, as also the working in them, was the invention (as *Hesiodus* saith) of those in Creet, who were called Dactyli Idæi. Likewise of silver, *Erichthonius* the Athenian beareth the name, or (after some) *Aeacus*. The gold mines, together with the melting & trying thereof, *Cadmus* the Phœnician first found out neere the mountaine Pangæus: but there be that give the praise hereof to *Thoas* and *Aeaclis* in Panchaia: or els to *Sol* the sonne of *Oceanus*, unto whom *Gellius* attributeth the invention of Phisicke, and making honny. *Midacritus* was the first man that brought lead out of the Island Cassiteris. And the Cyclopes invented first the yron-smiths forge. *Corœbus* the Athenian devised the potters craft, shewing how to cast earthen vessels in moulds, and bake them in furnaces. And therin, *Anacharsis* the Scythian, or after some, *Hyperbios* the Corinthian, invented the cast of turning the roundell or globe. Carpenters art was the invention of *Dedalus*, as also the tooles thereto belonging, to wit, the saw, the chip-axe, and hatchet, the plumbe line, the augoer and wimble, the strong glew, as also fish-glew, and stone-Saudre. As for the rule & squire, the levell, the turners instrument, and the key, *Theodorus Samius* devised them. *Phidon* the Argive, or *Palamedes* as *Gellius* rather thinketh, found out measures and weights. *Pyrodes* the sonne of *Celix*, devised the way to strike fire first out of the flint: and *Prometheus*, the meanes to preserve and keepe it in a stalke of *Ferula*, or Fennell geant. The Phrygians invented first the waggon and charriot with foure wheeles. As for trafficke and merchandise, the Carthaginians had the first honour thereof. *Eumolpus* the Athenian was of name for planting, pruning, and cutting vines: also for setting and graffing trees. *Staphylus* the sonne of *Silenus* taught men how to delay wine

with

A with water. *Ariſtæus* the Athenian invented the making of oyle olive, as alſo the preſſe and mill thereto belonging. The ſame man taught the caſt of drawing honie out of the combes. *Buzyges* the Athenian, or as others would have it, *Triptolemus*, yoked oxen firſt for tillage of the ground, and deviſed the plough. The Ægyptians were the firſt of all men that were governed by the Monarchie: and the Athenians, by a Popular ſtate. After the reigne of *Theſeus*, the firſt king or tyrant was *Phalaris*, at Agrigentum in Sicilie. The Lacedæmonians brought in, bondage & ſlaverie, firſt. The firſt judgement that paſſed for life & death, was in the court Ariopagus at Athens. The firſt battell that ever was fought, was betweene the Affricanes and Ægyptians; and the ſame performed by baſtons, clubs, & coulſtaves, which they call Phalangæ. Shields, bucklers, and targuets were deviſed by *Prætus* and *Aniſius*, when they warred one againſt the other: or els by *Cal-*
B *chus* the ſonne of *Athamas*. *Midias* of Meſſene made the firſt cuirace. And the Lacedæmonians, the mourian, the ſword, and the ſpeare. The Carians deviſed the grieves, the creſts, and pennaches upon helmets. *Scythes* the ſonne of *Iupiter*, deviſed bow and arrowes: although ſome ſay that *Perſes*, the ſon of *Perſeus*, invented arrowes. The Ætolians invented the launce and the pike: the dart with a loupe, *Ætolus* the ſonne of *Mars*, deviſed. As for the light javelines, and the Partuiſanes, *Tyrrhenus* brought them firſt into uſe: and *Penthesilea* the Amazon-queene, the gleive, bill, battell-axe, and halbard. *Piſeus* found out the boreſpeare and chaſing ſtaffe. Among engins of artillery, the Cretes invented the Scorpion or croſſe-bow: the Syrians, the Catapult: the Phenicians the baliſt or brake, and the ſling. *Piſeus* the Tyrrhenian brought up the uſe of the braſen trumpet: and *Artenon Clazomenius* of the pavois, mantilets, targuet-roofes, for the aſſault of ci-
C ties. The engine to batter walls (called ſometime the horſe, and now is named the ram) was the deviſe of *Epeus* at Troy. *Bellerophon* ſhewed firſt how to ride on horſebacke. *Pelethronius* invented ſaddle, bridle, and other furniture for the horſe. The Theſſalians, called Centaures, inhabiting neere to the mountaine Pelius, were the firſt that fought on horſebacke. The Phrygians deviſed firſt to drive and draw a chariot with two horſes: *Erichthonius*, with foure. *Palamedes* invented (during the Trojane warre) the manner of ſetting an armie in battaile array: alſo the giving of ſignall, the privie watch-word, the *corps de guard*, the watch and ward. In the time of the ſame warre, *Sinon* deviſed the ſentinels and watch-towers, as alſo the eſpiall. *Lycanor* was the firſt maker of truce. *Theſeus*, of leagues and alliances. *Car*, of whom Caria tooke the name, obſerved firſt the flight and crie of birds, and thereby gave præſages and fore-tokens. *Orpheus* went farther in this
D skill, and tooke markes from other beaſts. *Delphus* pried into beaſts inwards, and thereby foretold things to come. *Amphiaraus* was the firſt that had knowledge in Pyromancie, and gathered ſigns by ſpeculation of fire: like as *Tyreſias* the Thebane, by the feeding and geſture of birds. *Amphictyon* gave the interpretation of ſtrange and prodigious ſights, as alſo of dreames. *Atlas* the ſonne of *Libya* (or as ſome ſay, the Ægyptians, and as others the Aſſyrians) invented Aſtrologie: and in that ſcience *Anaximander* deviſed the Sphere. As for the knowledge & diſtinction of the winds, *Æolus* the ſonne of *Hellen*, he profeſſed it firſt. *Amphion* brought muſicke firſt into the world. The flute and the ſingle pipe or recorder, were the inventions of *Pan*, the ſon of *Mercurie*. The crooked cornet, *Midas* in Phrygia deviſed. And in the ſame countrey *Marſyas* invented the double fluit. But *Amphion* taught firſt to ſing and play to the Lydian meaſures: *Thamyras* the Thracian
E to the Dorian: and *Marſyas* of Phrygia, to the Phrygian. *Amphion* likewiſe (or, as ſome ſay, *Orpheus*, and after others *Linus*) plaied firſt upon the Citterne or the Lute. *Terpander* put ſeven ſtrings more unto it: *Simonides* added thereto an eight: and *Timotheus* the ninth. *Thamyras* was the firſt that plaied upon the ſtringed inſtrument, Lute, Citterne, or Harpe, without ſong: & *Amphion* ſung withall, or according to ſome, *Linus*. *Terpander* was the firſt that ſet ſongs for the foreſaid ſtringed inſtrument. And *Dardanus* the Trœzenian began firſt vocall muſicke to the pipe. The Curets taught to daunce in armour; and *Pyrrhus* the Moriſk, in order of battell: and both theſe were taken up firſt in Crete. The heroick or hexametre verſe we acknowledge to have come firſt from the Oracle of *Pythius Apollo*. But about the originall of Poëmes and Poëtrie, there is a great queſtion among authors. And it is probably gathered by hiſtories, that there were Poëts
F before the time of the Trojane warre. *Pherecydes* of Syros, in the daies of king *Cyrus*, invented firſt the writing in proſe. *Cadmus* the Mileſian wrote Chronicles, and compiled the firſt hiſtorie. *Lycaon* hath the report of ſetting out the firſt publicke games, and proving of maiſtries and feats of ſtrength and activitie, in Arcadia. To *Acaſtus* in Iolcum, wee are beholden for the firſt ſolemnities and games at funerals: and after him to *Theſeus*, in the ſtreights of Iſthmus. *Hercules*

inſtitu-

instituted the exercise of wrestlers and champions at Olympia: and *Pythus* was the first player at tennise. *Gyges* the Lydian gave the first proofe of painting and limning, in Ægypt: but in Greece, *Euchir* a cousin of *Dædalus* was the first painter, as *Aristotle* supposeth: but after *Theophrastus*, it was *Polygnotus* the Athenien. *Danaus* was the first that sailed with a ship, and so hee passed the seas from Ægypt to Greece: for before that time they used but troughs or flat planks, devised by king *Erythra* to crosse from one Iland to another in the red sea. But we meet with some writers who affirme, that the Trojans and Mysians were the first sailers, and devised navigation before them in Hellespont, when they set out a voyage against the Thracians. And even at this day in the British ocean, there be made certaine wicker boats of twigs covered with leather and stitched round about: in Nilus, of paper, cane-reed, and rushes. *Philostephanus* witnesseth, that *Iason* first used the long ship or galley: but *Egesias* saith, that it was *Paralus*: *Ctesias* attributeth it to *Samyras*: *Saphanus*, to *Semyramis*: and *Archimachus*, to *Ægeon*. *Damastes* testifieth, that the Erythræans made the Bireme or galley with two bankes of oares. *Thucydides* writeth, that *Aminocles* the Corinthian built the first Trireme with three rowes of ores to a side. *Aristotle* saith, that the Carthaginians were the first that set to sea the Quadrireme with 4 rankes of oares to a side: and *Nesichthon* the Salaminian, set aflote the first Quinquereme with 5 course of oares on either side. *Zenagoras* of Syracusa brought up those of sixe: and so from it to those of ten, *Mnesigeton* was the inventer. It is said, that *Alexander* the Great built galleys for 12 bankes to a side: and *Philostephanus* reporteth, that *Ptolomæ* surnamed *Soter*, rose to fifteene: *Demetrius* the sonne of *Antigonus*, to thirtie: *Ptolomæ Philadelphus*, to fortie: and *Ptolomæ Philopator* surnamed *Tryphon*, to fiftie. As for ships of burden and merchandise, as hoyes, &c. *Hippus Tyrius* invented them. The Cyrenians, made fregates; the Phœnicians, the barke; the Rhodians, the pinnace and brigantine: and last of all, the Cyprians made the hulke and great carrack. The Phœnicians were the first that in sailing, observed the course of the starres. The Copeans devised the oare: the Plateans invented the broad and flat end thereof: *Icarus* the sailes: *Dædalus* the mast, and the crosse saile-yard. The vessels for transporting of horses, were the invention of the Samians, or else of *Pericles* the Athenien. The Thasij had the honour for framing the long shippes covered with hatch: for before-time they fought onely from out of the hindecke in the poupe, and the fore-castle in the proe. Then came *Piseus* the Tyrrhene, and armed the stemme and beake-head of the ship with sharpe tines and pikes of brasse: *Eupalamus* devised the anchor: *Anacharsis* made it first with two teeth or floukes: the grapling hookes and the yron hands were the devise of *Pericles* the Athenien: and finally, *Typhis* invented the helpe of the helme, for the pylot to steere and rule the ship. The first that set out an Armada to the sea for fight, was *Minos*. The first that killed beasts was *Hyperbius* the sonne of *Mars*: and *Prometheus* ventured to slay an oxe or a bœuse.

Chap. lvii.

Wherein appeared first the generall agreement of all nations.

THe secret consent of all countries was shewed first in this, That they should universally in all places use the Ionian letters.

Chap. lviii.

Of Antique letters.

THe old characters of Greeke letters, were the same in manner that the Latine be in these daies: and this appeareth sufficiently by an antique table of brasse which came from the temple at Delphos, the which at this day is in the great librarie of the Palatium dedicated to *Minerva*, by the liberalitie of the Emperours, with this or such like inscription upon it, Ναυσικράτης ποσμένεω ἀθλωκὼς, κόρᾳ τᾷ ἀθλωᾷ ἀνέθηκεν, *i.* Nausicrates (the sonne) of *Tisamenus* an Athenien, caused this table to be made and set up to the noble virgine *Minerva*.

Chap. lix.

When Barbers were first seene at Rome.

THe next thing that all people of the world agreed in, was to entertaine Barbers, but it was late first ere they were in any request at Rome. The first that entred into Italie came out of Sicilie, and it was in the 454 yeere after the foundation of Rome. Brought in they were by

A by *P. Ticinius Mena*, as *Varro* doth report: for before-time they never cut their haire. The firſt that was ſhaven every day was *Scipio Africanus*: and after him commeth *Auguſtus* the Emperour, who evermore uſed the raſour.

Chap. lx.

Of Horologes or Dials, when they were firſt deviſed.

THe third univerſall accord of all nations, was in the obſervation how the houres went; and this was a point grounded upon good reaſon: but at what time, and by whome this was deviſed in Greece, we have declared in the ſecond booke of this worke: and long it was before
B this order came up at Rome, as well as the uſe of the Barber. In the 12 tables of Romane lawes, there is no mention at all made but of Eaſt and Weſt: after certein yeeres, the noon-ſteed point in the South quarter alſo was obſerved, and the Conſuls bedle or cryer pronounced noon, when ſtanding at the hall or chamber of the councell, hee beheld the ſunne in that wiſe betweene the pulpit called Roſtra, and the Grecoſtaſis [which was a place where forrein embaſſadours gave their attendance:] but when that the ſame ſunne enclined downward from the columne named Mœnia, to the common goale or priſon, then hee gave warning of the laſt quarter of the day, and ſo pronounced. But this obſervation would ſerve but upon cleere daies when the ſunne ſhined: and yet there was no other meanes to know how the day went, untill the firſt Punicke warre. *Fabius Veſtalis* writeth, that *L. Papyrius Curſor* 12 yeeres before the warre with *Pyrrhus*, was the
C firſt, that for to doe the Romanes a pleaſure, ſet up a ſunne-dyall to know what it was a clocke, upon the temple of *Quirinus* at the dedication thereof, when his father had vowed it before him. Howbeit mine author ſheweth not either the reaſon of the making of that diall, or the workman; ne yet from whence it was brought, nor in what writer hee found it ſo written. *M. Varro* reporteth, that the firſt diall was ſet up in the common market-place, upon a columne neere the foreſaid Roſtra, in the time of the firſt Punicke warre, by *M. Valerius Meſſala* the Conſull, preſently after the taking of Catana in Sicilie; from whence it was brought, thirtie yeeres after the report that goeth of the foreſaid quadrant and dyall of *Papyrius*, namely, in the yeere after the foundation of the cittie 477. And albeit the ſtrokes and lines of this Horologe or dyall agreed not fit with the houres, yet were the people ruled and went by it for an hundred yeeres ſave one, even
D untill *Q. Martius Philippus* (who together with *L. Paulus* was Cenſor) ſet another by it, framed and made more exquiſitely according to Art. And this peece of worke among other good acts done by the Cenſor during his office, was highly accepted of the people as a ſingular gift of his. Yet for all this, if it were a cloſe and cloudie daie wherein the ſunne ſhone not out, men knew not what it was a clocke certeinly: and thus it continued five yeeres more. Then at laſt, *Scipio Naſica* being Cenſor with *Lænas*, made the deviſe firſt to divide the houres both of day and night equally by water, diſtilling and dropping out of one veſſell into another. And this manner of Horologe or water-clocke, hee dedicated in the end within houſe, and that was in the 595 yeere from the building of Rome. Thus you ſee how long it was, that the people of Rome could not certainly tell how the day paſſed. Thus much concerning the Nature of man: let us returne now to
E diſcourſe of other living creatures: and firſt of land beaſts.

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THE EIGTH BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

CHAP. I.

Of land beasts. The praise of Elephants: their wit and understanding.

PAsse wee now to treat of other living creatures, and first of land beasts: among which, the Elephant is the greatest, and commeth neerest in wit and capacitie, to men: for they understand the language of that country wherein they are bred, they do whatsoever they are commaunded, they remember what duties they be taught, and withall take a pleasure and delight both in love and also in glorie: nay more than all this, they embrace goodnesse, honestie, prudence, and equitie, (rare qualities I may tell you to be found in men) and withall have in religious reverence (with a kind of devotion) not only the starres and planets, but the sunne and moone they also worship. And in very truth, writers there be who report thus much of them, That when the new moon beginneth to appeare fresh and bright, they come down by whole heards to a certaine river named Amelus, in the deserts and forrest of Mauritania, where after that they are washed and solemnly purified by sprinkling & dashing themselues all over with the water, and have saluted and adored after their manner that planet, they returne againe into the woods and chases, carrying before them their yong calves that be wearied and tired. Moreover, they are thought to have a sense and understanding of religion and conscience in others; for when they are to passe the seas into another countrey, they will not embarke before they be induced thereto by an oath of their governours and rulers, That they shall returne againe: and seen there have been divers of them, being enfeebled by sickenesse (for as bigge and huge as they be, subject they are to grievous maladies) to lie upon their backes, casting and flinging hearbs up toward heaven, as if they had procured and set the earth to pray for them. Now for their docilitie and aptnesse to learne any thing; the king they adore, they kneele before him, and offer unto him guirlands and chaplets of flowers and green hearbs. To conclude, the lesser sort of them, which they call Bastards, serve the Indians in good stead to eare and plough their ground.

CHAP. II.

When Elephants were put to draw first.

THe first time that ever they were knowne to draw at Rome, was in the triumph of *Pompey* the great, after he had subdued Affricke, for then were two of them put in geeres to his triumphant charriot. But long before that, it is said that Father *Bacchus* having conquered India, did the like when he triumphed for his conquest. Howbeit, in that triumph of *Pompey*, *Procilius* affirmeth, That coupled, as they were, two in one yoke, they could not possibly goe in at the gates of Rome. In the late solemnitie of tournois and sword-fight at the sharpe, which *Germanicus Cæsar* exhibited to gratifie the people, the Elephants were seen to shew pastime with leaping and keeping a stirre, as if they daunced, after a rude and disorderly manner. A common thing it was

A was among them to fling weapons and darts in the aire so strongly, that the winds had no power against them; to flourish also beforehand, yea, and to encounter and meet together in fight like sword-fencers, and to make good sport in a kind of Moriske daunce: and afterwards to goe on ropes and cords: to carie (foure together) one of them laid at ease in a litter, resembling the maner of women newly brought a bed: last of all, some of them were so nimble and well practised, that they would enter into an hall or dining place where the tables were set full of guests, & passe among them so gently and daintily, weighing as it were their feet in their going, so as they would not hurt or touch any of the companie as they were drinking.

Chap. III.

The docilitie of Elephants.

B THis is knowne for certaine, that upon a time there was one Elephant among the rest, not so good of capacitie, to take out his lessons, and learne that which was taught him: and being beaten and beaten againe for that blockish and dull head of his, was found studying and conning those feats in the night, which he had been learning in the day time. But one of the greatest wonders of them was this, that they could mount up and climbe against a rope; but more wonderfull, that they should slide downe againe with their heads forward. *Mutianus*, a man who had in his time beene thrice Consull, reporteth thus much of one of them, that hee had learned to make the Greeke characters, and was woont to write in that language thus much, *This have I written, and made an offering of the Celticke spoiles.* Likewise hee saith, that himC selfe saw at Puteoli, a certaine ship discharged of Elephants embarked therein: and when they should bee set ashore, and forced to goe forth of the vessell, to which purpose there was a bridge made for them to passe over, they were affrighted at the length thereof, bearing out so farre from the land into the water: and therefore to deceive themselves, that the way might not seeme so long, went backward with their tailes to the banke, and their heads toward the sea. They are ware, and know full well that their onely riches (for love of which, men lay wait for them) lieth in their armes and weapons that Nature hath given them: king *Iuba* calleth them their hornes: but *Herodotus*, who wrote long before him, and the custome of speech, hath tearmed them much better, Teeth. And therefore when they are shed and fallen off, either for age, or by some casualtie, the Elephants themselves hide them within the ground. And this in truth is the onely yvorie:D for, all the rest, yea and these teeth also so farre as lay covered within the flesh, is of no price, and taken for no better than bone. And yet of late daies, for great scarcitie & want of the right teeth, men have been glad to cut and saw their bones into plates, and make yvorie thereof. For hardly can wee now come by teeth of any bignesse, unlesse wee have them out of India. For all the rest that might bee gotten in this part of the world betweene us and them, hath been employed in superfluities onely, and served for wanton toies. You may know young Elephants by the whitenesse of these teeth: and a speciall care and regard have these beasts of them, above all. They look to one of them alwaies, that the point be sharpe; and therefore they forbeare to occupie it, least it should bee blunt against they come to fight: the other they use ordinarily, either to get up roots out of the earth, or to cast down any bankes or mures that stand in their way. When they chanceE to bee environned and compassed round about with hunters, they set formost in the ranke to bee seene, those of the heard that have the least teeth: to the end, that their price might not bee thought worth the hazard & venture in chase for them. But afterwards, when they see the hunters eager, and themselves overmatched and wearie, they breake them with running against the hard trees, and leaving them behind, escape by this raunsome as it were, out of their hands.

Chap. IIII.

The clemencie of Elephants: their foresight and knowledge of their owne dangers: also the fell fiercenesse of the Tygre.

F A Wonder it is in many of these creatures, that they should thus know wherefore they are hunted, and withall take heed and beware of all their dangers. It is said, that if an Elephant chaunce to meet with a man wandering simply out of his way in the wildernesse, hee will mildly and gently set him into the right way againe. But if he perceive a mans fresh footing, before he espie the man, he will quake and tremble for feare of being forelaied and surprised: he will

ſtay from farther following the ſent, looke about him every way, ſnuffe and puffe for very anger. G
Neither will he tread upon the tract of a mans foot, but dig it out of the earth, and give it to the next Elephant unto him, and he againe to him that followeth, and ſo from one to another paſſeth this intelligence and meſſage as it were, to the utmoſt ranke behind. Then the whole heard makes a ſtand, and caſt round about to returne backward, and withall put themſelves in battell array: ſo long continueth that ſtrong virulent ſmell of mens feet, and runneth through them all, notwithſtanding for the moſt part they be not bare, but ſhod. Semblably, the Tigreſſe alſo, how fierce and cruell ſhe be to other wild beaſts, and careth not a whit for a very Elephant; if ſhe happen to have a ſight of a mans footing, preſently, by report, conveigheth away her young whelpes, and is gone. But how commeth ſhe to this knowledge of a man? where ſaw ſhe him ever before, whom thus ſhe feareth? For ſurely ſuch wild woods and foreſts are not much travelled & frequented by men. Set caſe, that they may well wonder at the ſtraunge ſight and noveltie of their tracts, H
which are ſo ſeldome ſeene, how know they that they are to bee feared? Nay, what ſhould bee the reaſon, that they dread to ſee a man indeed, being as they are, farre bigger, much ſtronger, and ſwifter by many degrees than a man? Certes, herein is to bee ſeene the wonderfull worke of Nature, and her mightie power; that the greateſt, the moſt fell and ſavage beaſts that be, having never ſeene that which they ought to feare, ſhould incontinently have the ſence and conceit, why the ſame is to be feared.

Chap. V.

The underſtanding and memorie of Elephants. I

THe Elephants march alwaies in troupes. The eldeſt of them leadeth the vāward, like a captaine: and the next to him in age, commeth behind with the conduct of the arrereguard. When they are to paſſe over any river, they put formoſt the leaſt of all their companie, for feare, that if the bigger ſhould enter firſt, they would, as they troad in the channell, make the water to ſwell and riſe, and ſo cauſe the fourd to bee more deepe. *Antipater* writeth, that king *Antiochus* had two Elephants, which he uſed in his warres above all the reſt; and famous they were for their ſurnames, which they knew well ynough, and wiſt when any man called them thereby. And verily, *Cato* reciting in his Annales the names of the principall captaine Elephants, hath left in writing, That the elephant which fought moſt luſtily in the point of the Punick war, had to name K
Surus, by the ſame token, that the one of his teeth was gone. When *Antiochus* upon a time would have founded the fourd of a certaine river, by putting the Elephants before, Ajax refuſed to take the water, who otherwiſe at all times was wont to lead the way. Whereupon the king pronounced with a lowd voice, That looke which Elephant paſſed to the other ſide, he ſhould be the captaine and cheefe. Then Patroclus gave the venture: and for his labour had a rich harniſh and capariſon given him, & was all trapped in ſilver (a thing wherein they take moſt delight) & made beſides, the ſoveraigne of all the reſt. But the other that was diſgraced thus, and had loſt his place, would never eat any meat after, but died for very ſhame of ſuch a reprochfull ignominie. For among other qualities, marvellous baſhfull they are. For if one of them be overmatched and vanquiſhed in fight, he will never after abide the voice and braying of the conqueror, but in token of L
ſubmiſſion, giveth him a turfe of earth, with vervaine or graſſe upon it. Vpon a kind of ſhamefaced modeſtie, they never are ſeene to engender together, but performe that act in ſome couvert and ſecret corner. They go to rut, the male at five yeares of age, the female not before ſhe is ten yeares old. And this they doe every third yeare: and they continue therein five daies in the yeare (as they ſay) and not above: for upon the ſixt day they all to waſh themſelves over in the running river: and before they be thus purified, returne not to the heard. After they have taken one to another once, they never chaunge: neither fall they out and fight about their females, as other creatures doe moſt deadly and mortally. And this is not for want of love and hote affection that way. For reported it is of one Elephant, that he caſt a fancie and was enamoured upon a wench in Ægypt that ſold noſegaies and guirlands of floures. And leaſt any man ſhould thinke that hee M
had no reaſon thereto, it was no ordinarie maiden, but ſo amiable, as that *Ariſtophanes* the excellent Grammarian, was wonderfully in love with her. Another there was, ſo kind and full of love, that hee fanſied a youth in the armie of *Ptolomæus*, that ſcarce had never an haire on his face, and ſo entirely hee loved him, that what day ſoever hee ſaw him not, hee would forbeare his meat

A meat, and eat nothing. King *Iuba* likewiſe reporteth alſo of an Elephant that made court to another woman, who made and ſold ſweet ointments and perfumes. All theſe teſtified their love and kindneſſe, by theſe tokens: joy they would at the ſight of them, and looke pleaſantly upon them: make toward them they would (after their rude and homely manner) by all meanes of flatterie: and eſpecially in this, that they would ſave whatſoever people caſt unto them for to eat, and lay the ſame full kindly in their laps and boſomes. But no marvell is it that they ſhould love, who are ſo good of memorie. For the ſame *Iuba* ſaith, That an Elephant tooke knowledge and acquaintenance of one man in his old age, and after many a yeere, who in his youth had ben his ruler and governor. He affirmeth alſo, that they have by a ſecret divine inſtinct, a certain ſence of juſtice and righteous dealing. For when king *Bacchus* meant to bee revenged of 30 Elephants,
B which he had cauſed to be bound unto ſtakes, and ſet other 30 to run upon them, appointing alſo certaine men among to pricke & provoke them thereto; yet for all that, could not one of them be brought for to execute this butcherie, nor be miniſters of anothers crueltie.

Chap. VI.

When Elephants were firſt ſeene in Italie.

THe firſt time that Elephants were ſeene in Italie, was during the warre of king *Pyrrhus*: and they called them by the name of *Lucæ boves*, i. Lucane oxen, becauſe they had the firſt ſight of them in the Lucanes countrey, and it was in the 472 yeere after the cities foundation.
C But in Rome it was ſeven yeers after ere they were ſeene, and then they were ſhewed in a triumph. But in the yeere 502, a number of them were ſeene at Rome by occaſion of the victorie of *L. Metellus Pontifex* over the Carthaginians: which Elephants were taken in Sicilie. For 142 of them were conveied over upon plankes and flat bottomes, which were laid upon ranks of great tunnes and pipes ſet thicke one by another. *Verrius* ſaith, that they were cauſed to fight in the great Cirque or ſhew place, and were killed there with ſhot of darts and javelins for want of better counſell, and becauſe they knew not well what to doe with them: for neither were they willing to have them kept and nouriſhed, ne yet to bee beſtowed upon any kings. *L. Piſo* ſaith they were brought out only into the ſhew-place or cirque aforeſaid, and for to make them more contemptible, were chaſed round about it by certaine fellowes hired thereto, having for that purpoſe cer-
D taine ſtaves and perched, not pointed with yron, but headed with bals like foiles. But what became of them afterward, thoſe authours make no mention: who are of opinion, that they were not killed.

Chap. VII.

Their fights and combates.

MVch renowmed is the ſight of one Romane with an Elephant, at what time as *Annibal* forced thoſe captives whom he had taken of our men, to skirmiſh one againſt another to the utterance. For the onely Romane that remained unſlaine in that unnaturall conflict,
E hee would needs match with an Elephant, and ſee the combate himſelfe, aſſuring him upon his word, that if he could kill the beaſt, he ſhould be diſmiſſed and ſent home with life and libertie. So this priſoner entered into ſingle fight with the Elephant, and to the great hearts greefe of the Carthaginians ſlew him out-right. *Annibal* then ſent him away indeed according to promiſe and covenant; but conſidering better the conſequence of this matter, and namely, that if this combate were once by him bruited abroad, the beaſts would bee leſſe regarded, and their ſervice in the warres not eſteemed: made after him certaine light horſemen to overtake him upon the way, to cut his throat, ſo making him ſure for telling tales. Their long ſnout or trunke which the Latins call *Proboſcis*, may be eaſily cut off; as it appeared by experience in the wars againſt king *Pyrrhus*. *Fenoſtella* writeth, That the firſt ſight of them in Rome, was exhibited in the grand
F Cirque, during the time that *Claudius Pulcher* was Ædile Curule, when *M. Antonius* and *A. Poſthumius* were Conſuls: in the 650 yeere after the citie of Rome was built. In like manner, 20 yeer after, when the *Luculli* were Ædiles Curule, there was repreſented a combat betweene buls and Elephants. Alſo in the ſecond Conſulſhip of *Cn. Pompeius* at the dedication of the temple to *Venus Victorieſſe*, 20 of them, or as ſome write, 17 fought in the great ſhew place. In which ſolemnitie

the Gætulians were set to launce darts and javelines against them. But among all the rest, one E- G
lephant did wonders: for when his legs and feet were shot and stucke full of darts, he crept upon his knees, and never staied till he was gotten among the companies of the said Gætulians, where hee caught from them their targuets and bucklers perforce, flung them aloft into the aire, which as they fell, turned round, as if they had beene trundeled by art, and not hurled and throwne with violence by the beasts in their furious anger: and this made a goodly sight, and did great pleasure to the beholders. And as strange a thing as that was seene in another of them, whose fortune was to bee killed out of hand with one shot: for the dart was so driven, that it entred under the eie, and pierced as farre as to the vitall parts of the head, even the ventricles of the braine. Whereupon all the rest at once assaied to breake forth and get away, not without a great hurrie and trouble among the people, notwithstanding they were without the lists, and those set round about H
with yron grates and barres. [And for this cause, *Cæsar* the Dictatour, when afterwards hee was to exhibite the like shew before the people, cast a ditch round about the place, letting in the water, and so made a mote thereof: which, prince *Nero* afterwards stopped up, for to make more roume for the knights and men of armes.] But those Elephants of *Pompey* being past all hope of escaping and going cleere away, after a most pittifull manner and rufull plight that cannot be expressed, seemed to make mone unto the multitude, craving mercie and pitie, with greevous plaints and lamentations, bewailing their hard state and wofull case: in such sort, that the peoples hearts earned againe at this piteous sight, and with teares in their eies, for very compassion, rose up all at once from beholding this pageant, without regard of the person of *Pompey* that great Generall and Commaunder, without respect of his magnificence and stately shew, of his I
munificence and liberalitie, where he thought to have woon great applause and honour at their hands; but in lieu thereof fell to cursing of him, and wishing all those plagues and misfortunes to light upon his head; which soone after ensued accordingly. Moreover, *Cæsar* the Dictatour in his third Consulship exhibited another fight of them, and brought forth 20 to maintaine skirmish against 500 footmen: and a second time hee set out 20 more, with woodden turrets upon their backes, containing 60 defendants apeece: and he opposed against them 500 footmen, and as many horse. After all this, *Claudius* and *Nero* the Emperours brought them forth one by one into single fight with approved, expert, and accomplished fencers, at the end of all the other solemnitie, when they had done their prises. This beast, by report of all writers, is so gentle to all o-
thers that are but weake, and not so strong as himselfe, that if he passe through a flocke or heard K
of smaller cattell, it will with the nose or trunke which serveth in steed of his hand, remoove and turne aside whatsoever beast commeth in his way, for feare he should go over them, and so crush and tread under his foot any of them, ere it were aware. And never doe they any hurt, unlesse they be provoked thereto. Alwaies walke they by troups together, and worst of all other can they away with wandering alone, but love companie exceeding well. If it fortune that they be environed with horsemen, looke how many of their followers be feeble, wearie, or wounded, those they take into the mids of their squadron: and as if they were marshalled and ordered by a Serjeant of a band, or heard the direction of some General, so skilfully and as it were with guidance of reason, doe they maintaine fight by tumes, and succeed one after another in their course. The wild sort of them, after they be taken, are soonest brought to bee tame and gentle, with the L
juice or decoction of husked barley.

Chap. viii.

The manner of taking Elephants.

THe Indians are wont to take Elephants in this manner: the governor driveth one of them that are tame, into the chase and forrests, and when he can meet with one of them alone, or single him from the heard, he all to beateth the wild beast untill he hath made him wearie, and then he mounteth upon him and ruleth him as well as the former. In Africk they catch them in great ditches which they make for that purpose: into which, if one of them chance to wander M
astray from his fellowes, all the rest immediatly come to succor him; they heap together a deale of boughs, they roll down blocks and stones, and whatsoever may serve to raise a banke, and with all that ever they can doe, labour to plucke him out. Before time, when they meant to make them tractable, their manner was, by a troupe of horsemen to drive or traine them by little and little

a long

A a long way in a certein lawn or valley, made by mans hand for the nones, ere they wer aware, and when they wer enclosed within ditches or banks, there they would keep them from meat so long, untill for very hunger they would be glad to come to hand for food: & by this they might know they were gentle and tame enough to be taken, if they would meekely take a braunch of a bough presented and offered unto them. But now a daies, since they seek after them for their teeth sake, they make no more adoe but shoot at their legges, which otherwise naturally are tender enough and the softest part of their whole bodie. The Troglodites, a people bounding upon Æthiopia, who live onely upon the venison of Elephants flesh, use to clime trees that be neere their walke, and there take a stand: from thence (letting all the heard to passe quietly under the trees) they leape downe upon the buttockes of the hinmost: then, hee that doth this feat, with his left hand
B laieth fast hold upon his taile, and setteth his feet and legges fast in the flanke of the left side, and so hanging and bending backward with his bodie, he cutteth the ham-strings of one of his legs with a good keen hill or hatchet that he hath of purpose in his right hand: which done, the Elephant beginneth to slacke his pace, by reason that one of his legges is wounded: the man then maketh shift to get away and alighteth on foot, & for a farewell he hougheth the sinewes likewise of the other ham: and all this doth he in a trice with wonderfull agilitie and nimblenes. Others have a safer way than this, but it is more subtill and deceitfull: they set or sticke in the ground a great way off, mightie great bowes readie bent; to hold these fast, they chuse certaine tall, lustie, and strong fellowes, and as many others as sufficient as they, to draw with all their might and maine the said bowes against the other, and so they let flie against the poore Elephants as they
C passe by, javelins and bore-speares, as if they shot shafts, and sticke them therewith, and so follow them by their bloud. Of these beasts, the females are much more fearfull than the male kind.

Chap. ix.

The manner of taming Elephants.

AS furious and raging mad as they be sometime, they are tamed with hunger and stripes: but men had need to have the helpe of other Elephants that are tame alreadie, to restrain the unruly beast with strong chaines: of all times, when they goe to rut they are most out of order and starke wood; down go the Indian stables and beast-stals then, which they over-turn
D with their teeth: and therefore they keepe them from entring into that fit, and separate the females apart from the males, making their parkes and enclosures asunder, as they doe by other beasts. The tamed sort of them serve in the warres, and carrie little castles or turrets with armed souldiers, to enter the squadrons and battailons of the enemies: and for the most part, all the service in the warres of the East, is perfourmed by them, and they especially determine the quarrell: these be they that breake the rankes, beare down armed men that are in the way, and stamp them under foot. These terrible beasts (as outragious otherwise as they seeme) are frighted with the least grunting that is of a swine: be they wounded at any time or put into a fright, backeward alwaies they goe, and doe as much mischiefe to their owne side that way, as to their enemies. The African Elephants are affraid of the Indian, and dare not look upon them; for in truth the
E Indian Elephants be farre bigger.

Chap. x.

How they breed and bring forth their young: and of their nature otherwise.

THe common sort of men thinke, that they goe with young ten yeeres: but *Aristotle* saith, that they goe but two yeeres, and that they breed but once and no more in their life, and bring not above one at a time: also that they live commonly by course of nature 200 yeers, and some of them 300. Their youthfull time and strength of age beginneth when they be three-
F score yeeres old: they love rivers above all things, and lightly ye shall have them evermore wandring about waters; and yet by reason otherwise of their bigge and unweldie bodies, swim they cannot. Of all things they can worst away with cold; and that is it they are most subject unto, and feele greatest inconvenience by: troubled they be also with the chollicke, and ventosities, as also with the fluxe of the bellie: other maladies they feele not. I find it written in histories, that if

they drinke oile, the arrowes and darts which sticke in their bodies will come foorth and fall off: G
but the more that they sweat the sooner will they take hold and abide in stil the faster. The eating
of earth breeds the consumption in them, unlesse they feed and chew often thereof: they de-
voure stones also. As for the trunkes and bodies of trees, it is the best meat they have, and therin
take they most delight. If the date trees be too high that they cannot reach the fruit, they will o-
verturne them with their forehead, and when they lie along, eat the dates. They chew and eat their
meat with their mouth: but they breath, drinke, and smell, with their trunke, which not improper-
ly is called their hand. Of all other living creatures, they cannot abide a mouse or a rat, and if
they perceive that their provander lying in the manger, tast and sent never so little of them, they
refuse it and will not touch it. They are mightily tormented with paine, if they chaunce in their
drinking to swallow down an horsleech (which worme, I obserue, they begin now to call, a bloud- H
sucker:) for so soone as this horsleech hath setled fast in his wind-pipe, he putteth him to intolle-
rable paines. Their hide or skin of their backe, is most tough and hard; but in the belly, soft and
tender: covered their skin is neither with haire nor bristle, no not so much as in their taile, which
might serve them in good stead to drive away the busie and troublesome flie, (for as vast & huge
a beast as he is, the flie haunteth and stingeth him) but full their skin is of crosse wrinckles lattise-
wise; and besides that, the smell thereof is able to draw and allure such vermine to it: and therfore
when they are laid stretched along, and perceive the flies by whole swarmes setled on their skin,
sodainly they draw those cranies and crevises togither close, and so crush them all to death. This
serves them instead of taile, maine, and long haire. Their teeth beare a very high price, and they
yeeld the matter of greatest request, and most commendable, for to make the statues and images I
of the gods: but such is the superfluitie and excesse of men, that they have devised another thing
in them to commend; for they find forsooth a speciall daintie tast in the hard callous substance
of that which they call their hand: for no other reason (I beleeve) but because they have a con-
ceit that they eat yvorie, when they chaw this gristle of their trunke. In temples are to be seene E-
lephants teeth of the greatest size: howbeit in the marches of Africke where it confineth upon
Æthyopia, they make of yvorie the verie principals and corner posts of their houses: also with
the Elephants tooth, they make mounds and pales both for to enclose their grounds, and also
to keepe in their beasts within parke, if it be true that *Polybius* reporteth, from the testimonie of
king *Gulussa*.

Chap. xi. K

Where the Elephants are bred: how the Dragons and they disagree.

ELephants breed in that part of Affricke which lyeth beyond the deserts and wilderneſſe of the Syrtes: also in Mauritania: they are found also among the Æthiopians and Troglo-
dites, as hath been said: but India bringeth forth the biggest: as also the dragons, that are
continually at variance with them, and evermore fighting, and those of such greatnesse, that they
can easily claspe and wind round about the Elephants, and withall tye them fast with a knot. In
this conflict they die, both the one and the other: the Elephant hee falls downe dead as conque- L
red, and with his heavie weight crusheth and squeaseth the dragon that is wound and wreathed
about him.

Chap. xii.

The wittinesse and pollicie in these creatures.

WOnderful is the wit and subtiltie that dumb creatures have, & how they shift for them-
selves and annoy their enemies: which is the only difficultie that they have to arise and
grow to so great an heigth and excessive bignesse. The dragon therefore espying the
Elephant when he goeth to releese, assaileth him from an high tree and launceth himselfe upon
him; but the Elephant knowing well enough he is not able to withstand his windings and knit- M
tings about him, seeketh to come close to some trees or hard rockes, and so for to crush & squise
the dragon between him and them: the dragons ware hereof, entangle and snarle his feet and
legges first with their taile: the Elephants on the other side, undoe those knots with their trunke
as with a hand: but to prevent that againe, the dragons put in their heads into their snout, and

so

A so stop their wind, and withall, fret and gnaw the tendereſt parts that they find there. Now in caſe theſe two mortall enemies chaunce to reencounter upon the way, they briſtle and bridle one againſt another, and addreſſe themſelves to fight; but the principall thing the dragons make at, is the eye: whereby it commeth to paſſe, that many times the Elephants are found blind, pined for hunger, and worne away, and after much languiſhing, for very anguiſh & ſorrow die of their venime. What reaſon ſhould a man alleadge of this ſo mortall warre betweene them, if it be not a verie ſport of Nature and pleaſure that ſhee takes, in matching theſe two ſo great enemies togither, and ſo even and equall in every reſpect? But ſome report this mutuall war between them after another ſort: and that the occaſion thereof ariſeth from a naturall cauſe. For (ſay they) the Elephants bloud is exceeding cold, and therefore the dragons be wonderfull deſirous thereof to
B refreſh and coole themſelves therewith, during the parching and hote ſeaſon of the yeere. And to this purpoſe they lie under the water, waiting their time to take the Elephants at a vantage when they are drinking. Where they catch faſt hold firſt of their trunke: and they have not ſo ſoone claſped and entangled it with their taile, but they ſet their venomous teeth in the Elephants eare, (the onely part of all their bodie, which they cannot reach unto with their trunke) and ſo bite it hard. Now theſe dragons are ſo big withall, that they be able to receive all the Elephants bloud. Thus are they ſucked drie, untill they fall down dead: and the dragons again, drunken with their bloud, are ſquiſed under them, and die both together.

Chap. XIII.

C

❧ *Of Dragons.*

IN Æthyopia there be as great dragons bred, as in India, namely, twentie cubites long. But I marvell much at this one thing, why king *Iuba* ſhould thinke that they were creſted. They are bred moſt in a countrey of Æthyopia, where the Aſachæi inhabite. It is reported, that upon their coaſts they are enwrapped foure or five of them together, one within another, like to a hurdle or lattiſe worke, and thus paſſe the ſeas, for to find better paſturage in Arabia, cutting the waves, and bearing up their heads aloft, which ſerve them in ſteed of ſailes.

Chap. XIIII.

D

❧ *Of monſtrous great Serpents, and namely of thoſe called Boæ.*

Megaſthenes writeth, that there be ſerpents among the Indians grown to that bigneſſe, that they are able to ſwallow ſtags or buls all whole. *Metrodorus* ſaith, That about the river Rhyndacus in Pontus, there be Serpents that catch and devour the foules of the aire, bee they never ſo good and flight of wings, and ſore they never ſo high. Well knowne it is, that *Attilius Regulus*, Generall under the Romanes, during the warres againſt the Carthaginians, aſſailed a Serpent neere the river Bagrada, which caried in length 120 foot: and before he could conquer him, was driven to diſcharge upon him arrowes, quarrels, ſtones, bullets, and ſuch like ſhot, out of brakes, ſlings, and other engines of artillerie, as if he had given the aſſault to ſome ſtrong towne
E of warre. And the proofe of this was to be ſeene by the markes remaining in his skin and chaws, which, untill the warre of *Numantia* remained in a temple or conſpicuous place of Rome. And this is the more credible, for that wee ſee in Italie other ſerpents named Boæ, ſo big and huge, that in the daies of the Emperour *Claudius* there was one of them killed in the Vaticane, within the bellie whereof there was found an infant all whole. This Serpent liveth at the firſt of kines milke, and thereupon taketh the name of Boæ. As for other beaſts, which ordinarily of late are brought from all parts into Italie, and oftentimes have there been ſeene, needleſſe it is for mee to deſcribe their formes in particular curiouſly.

Chap. XV.

F

❧ *Of Scythian beaſts, and thoſe that are bred in the North parts.*

VEry few ſavage beaſts are engendred in Scythia, for want of trees and paſturage. Few likewiſe in Germanie, bordering thereupon. Howbeit, that country bringeth forth certain kinds of goodly great wild bœufes: to wit, the Biſontes, mained with a collar, like Lions: and the

Vri,

Vri, a mightie ſtrong beaſt, and a ſwift: which the ignorant people call Buffles, whereas indeed the Buffle is bred in Affrica, and carieth ſome reſemblance of a calfe rather, or a ſtag. The Northerne regions bring forth wild horſes, which there are found in great troupes: like as in Aſia and in Affricke there are to bee ſeene wild aſſes. Moreover, a certaine beaſt, called the Alce, very like to an horſe, but that his eares are longer; and his necke likewiſe with two markes, diſtinguiſh them aſunder. Moreover, in the Iſland Scandinavia, there is a beaſt called Machlis, not much unlike to the Alce abovenamed: common he is there, and much talk we have heard of him, howbeit in theſe parts hee was never ſeene. Hee reſembleth, I ſay, the Alce, but that hee hath neither joint in the hough, nor paſternes in his hind-legs: and therefore hee never lieth downe, but ſleepeth leaning to a tree. And therefore the hunters that lie in await for theſe beaſts, cut downe the tree whiles they are aſleepe, and ſo take them: otherwiſe they ſhould never bee taken, ſo ſwift of foot they are, that it is wonderfull. Their upper lip is exceeding great, and therefore as they graſe and feed, they goe retrograde, leaſt if they were paſſant forward, they ſhould fold double that lip under their muzzle. There is (they ſay) a wild beaſt in Pæonia, which is called Bonaſus, with a maine like an horſe, otherwiſe reſembling a bull: marie, his hornes bend ſo inward with their tips toward his head, that they ſerve him in no ſteed at all for fight, either to offend or defend himſelfe; and therefore, all the helpe that he hath, is in his good footmanſhip; and otherwhiles in his flight by dunging, which hee will ſquirt out from behind him three acres in length. This ordure of his is ſo ſtrong and hot, that it burneth them that follow after him in chaſe, like fire, if haply they touch it. A ſtrange thing it is, and wonderfull, that the Leopards, Panthers, Lions (and ſuch like beaſts) as they go, draw in the points of their clawes within their bodie, as it were into ſheaths, becauſe they ſhould neither breake nor waxe blunt, but bee alwaies keene and ſharpe: alſo, that when they run, they ſhould turne the hooked nailes of their pawes backe, and never ſtretch them forth at length, but when they meane to aſſaile or ſtrike any thing.

Chap. xvi.

Of Lions.

THe Lions are then in their kind moſt ſtrong and courageous, when the haire of their main or coller is ſo long, that it covereth both necke and ſhoulders. And this commeth to them at a certaine age, namely, to thoſe that are engendered by Lions indeed. For ſuch as have Pards to their ſires, never have this ornament, no more than the Lioneſſe. Theſe Lioneſſes are very letcherous, and this is the very cauſe that the Lions are ſo fell and cruell. This, Affricke knoweth beſt, and ſeeth moſt: and eſpecially in time of a great drought, when for want of water, a number of wild beaſts reſort by troups to thoſe few rivers that be there, and meet together. And hereupon it is, that ſo many ſtrange ſhaped beaſts, of a mixt and mungrell kind are there bred, whiles the males either perforce, or for pleaſure, leape and cover the females of all ſorts. From hence it is alſo, that the Greekes have this common proverbe, *That Affricke evermore bringeth forth ſome new and ſtrange thing or other*. The Lion knoweth by ſent and ſmell of the Pard, when the Lioneſſe his mate hath plaied falſe, and ſuffered her ſelfe to be covered by him: and preſently with all his might and maine runneth upon her for to chaſtiſe and puniſh her. And therefore when the Lioneſſe hath done a fault that way, ſhee either goeth to a river, and waſheth away the ſtrong and ranke ſavour of the Pard, or els keepeth aloofe, and followeth the Lion farre off, that hee may not catch the ſaid ſmell. I ſee it is a common received opinion, that the Lioneſſe bringeth forth young but once in her life, for that her whelpes in her kinling teare her belly with their nailes, and make themſelves roume that way. *Ariſtotle* writeth otherwiſe, a man whom I cannot name, but with great honour and reverence, and whome in the hiſtorie and report of theſe matters I meane for the moſt part to follow. And in very truth king *Alexander* the great, of an ardent deſire that he had to know the natures of all living creatures, gave this charge to *Ariſtotle*, a man ſingular and accompliſhed in all kind of ſcience and learning, to ſearch into this matter, and to ſet the ſame downe in writing: and to this effect commanded certaine thouſands of men, one or other, throughout all the tract, as well of Aſia as Greece, to give their attendance, & obey him: to wit, all Hunters, Faulconers, Fowlers, and Fiſhers, that lived by thoſe profeſſions. Item, all Forreſters, Park-keepers, and Wariners: all ſuch as had the keeping of heards and flockes of cattell: of bee-hives, fiſh-pooles, ſtewes, and ponds: as alſo thoſe that kept up foule, tame or wild,

in

A in mew, those that fed poultrie in barton or coupe: to the end that he should be ignorant of nothing in this behalfe, but be advertised by them, according to his commission, of all things in the world. By his conference with them, he collected so much, as thereof he compiled those excellent bookes *de Animalibus, i.* of Living creatures, to the number almost of fiftie. Which being couched by me in a narrow roume, and breefe Summarie, with the addition also of some things els which he never knew, I beseech the readers to take in good worth: and for the discoverie and knowledge of all Natures workes, which that most noble & famous king that ever was desired so earnestly to know, to make a short start abroad with mee, and in a breefe discourse by mine owne paines and diligence digested, to see all. To return now unto our former matter. That great Philosopher *Aristotle* therfore reporteth, that the Lioness at her first litter bringeth forth
B five whelpes, and every yeare after, fewer by one: and when she commeth to bring but one alone, shee giveth over, and becommeth barren. Her whelpes at the first are without shape, like small gobbets of flesh, no bigger than weasels. When they are sixe months old, they can hardly go, and for the two first, they stirre not a whit. Lions there be also in Europe (onely betweene the rivers Achelous and Nestus) and these verily be farre stronger than those of Affricke or Syria. Moreover, of Lions there be two kinds: the one short, well trussed and compact, with more crisp and curled maines, but these are timerous and but cowards to them that have long and plaine haire; for those passe not for any wounds whatsoever. The Lions lift up a legge when they pisse, as dogges doe: and over and besides that, they have a strong and stinking breath, their very bodie also smelleth ranke. Seldome they drinke, and eat but each other day: and if at any time they
C feed till they be full, they will abstaine from meat three daies after. In their feeding, whatsoever they can swallow without chawing, down it goes whole: and if they find their gorge and stomack too full, and not able indeed to receive according to their greedie appetite, they thrust their pawes downe their throats and with their crooked clees fetch out some of it againe, to the end they should not be heavie and slow upon their fulnesse, if haply they be put to find their feet and flie. Mine author *Aristotle* saith moreover, that they live verie long: and he prooveth it by this argument, That many of them are found toothles for very age. *Polybius* who accompanied [*Scipio*] *Æmylianus* in his voyage of Affrick, reporteth of them, That when they be grown aged, they will prey upon a man: the reason is, because their strength will not hold out to pursue in chase other wild beasts. Then, they come about the cities and good towns of Affrick, lying in await for their
D prey, if any folk come abroad: & for that cause, he saith, that whiles he was with *Scipio* he saw some of them crucified & hanged up, to the end that upon the sight of them, other Lions should take example by them, and be skared from doing the like mischiefe. The Lion alone of all wild beasts is gentle to those that humble themselves unto him, and will not touch any such upon their submission, but spareth what creature soever lieth prostrate before him. As fell and furious as hee is otherwhiles, yet he dischargeth his rage upon men, before that he setteth upon women, and never preyeth upon babes unlesse it be for extreame hunger. They are verily perswaded in Libya, that they have a certaine understanding, when any man doth pray or entreat them for any thing. I have hard it reported for a truth, by a captive woman of Getulia (which being fled was brought home againe to her master) That shee had pacified the violent furie of many Lions within the
E woods and forrests, by faire language and gentle speech; and namely, that for to escape their rage, she hath been so hardie as to say, shee was a sillie woman, a banished fugitive, a sickely, feeble, and weake creature, an humble suiter and lowly suppliant unto him the noblest of all other living creatures, the soveraigne and commaunder of all the rest, and that shee was too base and not worthie that his glorious majestie should prey upon her. Many and divers opinions are currant, according to the sundrie occurrences that have hapned, or the inventions that mens wits have devised. As touching this matter, namely, that savage beasts are dulced and appeased by good words and faire speech: as also that fell serpents may bee trained and fetched out of their holes by charmes, yea and by certaine conjurations and menaces restrained and kept under for a punishment: but whether it be true or no, I see it is not yet by any man set downe and determined.
F To come againe to our Lions: the signe of their intent and disposition, is their taile; like as in horses, their ears: for these two marks and tokens, certainly hath Nature given to the most couragious beasts of all others, to know their affections by: for when the Lion stirreth not his taile, hee is in a good mood, gentle, mild, pleasantly disposed, and as if hee were willing to be plaied withall; but in that fit he is seldome seene: for lightly hee is alwaies angrie. At the first, when hee entreth

entreth into his choller, hee beateth the ground with his taile: when hee groweth into greater heats, he flappeth and jerketh his sides and flanks withall, as it were to quicken himselfe, and stirre up his angry humor. His maine strength lieth in his breast: hee maketh not a wound (whether it be by lash of taile, scratch of claw, or print of tooth) but the bloud that followeth, is blacke. When his belly is once full, all his anger is past, and he doth no more harme. His generositie and magnanimitie he sheweth most in his daungers: which courage of his appeareth not onely herein, That he seemeth to despise all shot of darts against him, defending himselfe a long time onely with the terrible aspect of his countenance, and protesting as it were that he is unwilling to deale unlesse he be forced thereto in his owne defence, *i. se defendendo*, and at length maketh head againe, not as compelled and driven thereto for any perill that he seeth, but angred at their follie that assaile and set upon him: but herein also is seen rather his noble heart and courage, That be there never so many of hounds and hunters both following after him, so long as hee is in the open plaines where he may be seene, hee maketh semblance as though he contemned both dog and man, dismarching and retiring with honour, and otherwhiles seeming in his retreat to turne againe and make head; but when he hath gained the thickers and woods, and gotten once into the forrests out of sight, then he skuds away, then hee runneth amaine for life, as knowing full well that the trees and bushes hide him, that his shamefull dislodging and flight is not then espied. When he chaseth and followeth after other beasts, hee goeth alwaies saltant or rampant; which he never useth to doe when he is chased in sight, but is onely passant. If hee chaunce to be wounded, hee hath a marveilous eye to marke the partie that did it, and be the hunters never so many in number, upon him he runneth onely. As for him that hath let flie a dart at him, and yet missed his marke and done no hurt, if he chaunce to catch him, hee all to touzeth, shaketh, tosseth, and turneth him lying along at his feet, but doth him no harme at all besides. When the Lioneſſe fighteth for her young whelpes, by report, she setteth her eies wistly and entirely upon the ground, because she would not be affrighted at the sight of the chasing-staves of the hunters. Lions are nothing at all craftie & fraudulent, neither be they suspicious: they never look askew, but alwaies cast their eie directly forward, & they love not that any man should in that sort looke side-long upon them. It is constantly beleeved, that when they lie a dying they bite the earth, and in their very death shed teares. This creature, so noble as he is, and withall so cruell and fell, trembleth and quaketh to heare the noise of cartwheeles, or to see them turne about; nay he cannot abide of all things charriots when they be void and emptie: frighted he is with the cocks comb, and his crowing much more, but most of all with the sight of fire. The Lion is never sick but of the peevishnes of his stomacke, loathing all meat: and then the way to cure him, is to tie unto him certaine shee apes, which with their wanton mocking and making mowes at him, may move his patience and drive him for the verie indignitie of their malapert saucinesse, into a fit of madnesse; and then, so soone as he hath tasted their blood, he is perfectly well againe: and this is the onely remedie. *Q. Scævola* the sonne of *Publius*, was the first at Rome that in his Curule Ædileship exhibited a fight and combat of many Lions togither, for to shew the people pastime and pleasure: but *L. Sylla*, who afterwards was Dictatour, was the first of all others that in his Pretorship represented a shew of an hundred Lions with manes and collars of haire: and after him, *Pompeius* the Great shewed 600 of them fighting in the grand Cirque, whereof 315 were male Lions with mane. And *Cæsar* Dictatour brought 400 of them into the shew-place. The taking of them in old time was a verie hard peece of worke, and that was commonly in pit-fals: but in the Emperor *Claudius* his daies it chaunced, that a shepheard or heardman who came out of Gætulia, taught the manner of catching them: a thing (otherwise) that would have been thought incredible, and altogither unbeseeming the name and honour of so goodly a beast. This Getulian I say, fortuned to encounter a Lion, and when he was violently assailed by him, made no more adoe but threw his mandilion or cassocke full upon his eies. This feat or cast of his was soone after practised in the open shew-place, in such sort, that a man would hardly have beleeved, but he that saw it, that so furious a beast should so easily be quailed and daunted so soone as ever hee felt his head covered, were the things never so light; making no resistance, but suffering one to doe what he would with him, even to bind him fast, as if in very truth all his vigor and spirit rested in his eyes. Lesse therefore is it to be marveiled at, that *Lysimachus* strangled a Lion, when as by commaundement of *Alexander* the Great, he was shut up alone togither with him. The first that yoked them at Rome and made them to draw in a charriot, was *M. Antonius*. And verily it was in the

A the time of civill warre, after the battaile fought in the plaines of Pharſalia, a ſhrewd fore-token and unhappie preſage for the future event, and namely, for men of an high ſpirit and brave mind in thoſe daies, unto whom this prodigious ſight did prognoſticate the yoke of ſubjection: for what ſhould I ſay, how *Antonie* rode in that wiſe with the courtiſan *Cytheris*, a common Actreſſe in Enterludes upon the ſtage? to ſee ſuch a ſight, was a monſtrous ſpectacle, that paſſed all the calamities of thoſe times. It is reported, that *Hanno* (one of the nobleſt Carthaginians that ever were) was the firſt man that durſt handle a Lion with his bare hand, and ſhewe him gentle and tame, to follow him all the citie over in a ſlip like a dogge. But this deviſe and tricke of his turned him to great domage, and coſt him his utter undoing: for the Carthaginians hereupon laid this ground, that *Hanno*, a man of ſuch a gift, ſo wittie and inventive of all deviſes, would be
B able to perſuade the people to whatſoever his mind ſtood; and that it was a daungerous and tickliſh point to put the libertie of ſo great a ſtate as Carthage was, into the hands and managing of him, who could handle and tame the furious violence of ſo ſavage a beaſt: and thereupon condemned and baniſhed him. Moreover we find in hiſtories, many examples alſo of their clemencie and gentleneſſe, ſeene upon divers caſuall occaſions. *Mentor* the Syracuſian, fortuned in Syria to meet with a Lion, who after an humble manner, in token of obedience and ſubmiſſion, ſeemed to tumble and wallow before him: he aſtonied for very feare, ſtarted backe and began to flie, but the wild beaſt followed him ſtill, and was readie at every turne to preſent himſelfe before him, licking the verie tracks of his footſteps as he went, in flattering manner, as if he would make love unto him. *Mentor* at length was ware that the Lion had a wound in his foot, and that it ſwel-
C led therewith: whereupon he gently plucked out the ſpill of wood that had gotten into it, and ſo eaſed the beaſt of his paine. This accident is for a memoriall repreſented in a picture at Syracuſa. Semblably, *Elpis* a Samian being arrived and landed in Affricke, chaunced to eſpie neere the ſhoare, a Lion, gaping wide and ſeeming afar off to whet his teeth at him in menacing wiſe: he fled apace to take a tree, and called upon god *Bacchus* to help him (for then commonly we fall to our praiers when we ſee little or no hope of other helpe:) but the Lion ſtopped him not in his flight, albeit he could have croſſed the way well enough; but laying himſelfe downe at the tree root with that open mouth of his wherewith he had skared the man, made ſignes to move pitie and compaſſion. Now ſo it was, that the beaſt having lately fed greedily, had gotten a ſharpe bone within his teeth which put him to exceeding paine; beſides that, he was almoſt famiſhed:
D and he looked pittifully up to the man, ſhewing how he was puniſhed himſelf among thoſe very weapons wherwith he was to annoy others, and after a ſort with dumb & mute praiers beſought his helpe. *Elpis* aviſed him well a pretie while, and beſides that hee was not very forward to venture upon the wild beaſt, he ſtaied the longer and made the leſſe haſt, whiles he conſidered rather this ſtraunge and miraculous accident, than otherwiſe greatly feared. At the laſt hee commeth downe from the tree, and plucketh out the bone, whiles the Lion held his mouth handſomly to him, and compoſing himſelfe for to receive his helpfull hand as fitly as poſſibly he could. In recompence of which good turne, it is ſaid, that ſo long as this ſhip of his lay there at anchor, the Lion furniſhed him and his companie with good ſtore of veniſon readie killed to his hand. And upon this occaſion, *Elpis* after his returne, dedicated a temple in Samos to god *Bacchus*, which
E upon this reaſon the Greekes called χαίλωνος Διονύσου, *i.* of *Gaping Bacchus*: or, σωτῆρος νέου Διονύσου, *i.* The chappell of *Bacchus* the Saviour. Can wee marveile any more from henceforth, that wild beaſts ſhould marke and know the footing of a man, ſeeing that in their extremities and neceſſities, they have recourſe to him alone for hope of ſuccour? And why went not they to other creatures? or who taught them that the hand of man was able to cure them? unleſſe this be the reaſon peradventure, That griefe, anguiſh, and extreame peril, forceth even ſavage beaſts to ſeeke all meanes of helpe and reliefe.

Chap. XVII.

Of Panthers.

F *Demetrius* the Philoſopher, ſo well ſeen in the ſpeculation of Natures workes, and the cauſes thereof, maketh mention of as memorable a caſe as the former, touching a Panther: for as hee ſaith, there was a Panther deſirous to meet with a man, and therefore lay in the mids of an high-way until ſome paſſenger ſhould come by, and ſodainly was eſpied of the father

of

of *Philinus* the Philosopher, who travailed that way. The man (for feare) began to retire and go backe againe, but the wild beast kept a tumbling and vaunting all about him; doubtlesse and by all apparance after a flattering sort, as if it would have had somewhat; and such a tossing and tormenting of it selfe she made, so piteously, that it might soone be seene in what griefe and paine the Panther was. The poore beast had but lately kindled, and her young whelpes were falne into a ditch, a farre off: well, the first point that the man shewed of pittie and commiseration was, not to be affraid; and the next was, to have regard and care of her: follow hee did the Panther, as she seemed to traine and draw him by his garment (which with her clawes she tooke hold of full daintily) untill they were come to the pit or ditch aboveſaid. So soone then as he knew the occasion of her griefe and sorrow, and withall, what might bee the reward of his courtesie, even as much as his life came to, hee drew foorth her little ones that were falne downe into the said pit: which done, she and her whelpes togither leaping and shewing gambols for joy, accompanied him, and through the wildernesse directed him all the way, untill he was gotten forth. So as it appeared in her, that she was thankefull unto him and requited his kindnesse, albeit their passed no covenant nor promise betweene them of any such recompense: a rare example to be found even amongst men. This storie and such like, give great colour of truth to that which *Democritus* reporteth; namely, That *Thoas* in Arcadia saved his life by the meanes of a dragon. This *Thoas* being but a verie child, had loved this dragon when he was but young, exceeding well, and nourished him: but at last, being in some dread of the serpents nature, and not well knowing his qualities, and fearing withall the bignesse that now hee was growne unto, had carried him into the mountaines and deserts: wherein it fortuned that hee was afterwards set upon and environed by theeves: whereupon he cried out, and the dragon knowing his voice, came foorth and rescued him. As for babes and infants cast forth to perish, and sustained by the milke of wild beasts, like as *Romulus* and *Remus* our first founders, were suckled by a shee wolfe: such things in mine opinion are in all reason to be attributed more to fortune and fatall destinies, than to the nature of those savage beasts. The Panthers and Tygres, are in a manner the only beasts (that for their variety of spotted skins, and *furres which they yeeld) in great request, and commendable: for other beasts have each one a proper colour of their owne, according to their kind. Lions there be all blacke, but those are found in Syria onely. The ground of the Panthers skin, is white, beset all over with little blacke spots like eyes. It is said, that all four-footed beasts are wonderfully delighted and enticed by the smell of Panthers; but their hideous looke and crabbed countenance which they bewray so soone as they shew their heads, skareth them as much againe: and therefore their manner is, to hide their heads, and when they have trained other beasts within their reach by their sweet savour, they flie upon them and worrie them. Some report, that they have one marke on their shoulder resembling the moone, growing and decreasing as she doth, sometime shewing a full compasse, and other-whiles hollowed and pointed with tips like hornes. In all this kind and race of wild beasts, now a daies they call the male * Variæ and Pardi: and great abundance there is of them in Affricke and Syria. Some there be againe, that make no other difference betweene the Luzernes, Leopards, and these Panthers, but onely this, that the Panthers be white; and as yet I know no other markes to discerne them by. There passed an old Act and ordinance of the Senate, forbidding expressely that any Panthers of Africke should be brought into Italie. Against this edict, *Cn. Ausidius* a Tribune of the commons, put up another Bill unto the people; and graunted it was, That for the solemnitie of the games Circenses, they might be brought over. *Scaurus* was the first man who in his Ædileship exhibited a shew unto the people of 150 Luzernes togither. After him, *Pompeius* the Great brought forth 410. The Emperor *Augustus*, 420: who also in the yeere that *Q. Tubero* and *Fabius Maximus* were Consuls together (upon the 4 day before the Nones of May, at the dedication of the Theatre of *Marcellus*) was the first of all others that shewed a tame tygre within a cage: but the Emperour *Claudius*, foure at once.

* i. the Lubarnes, or Luzernes.

* i. Luzernes, or Libards.

G H I K L M

Chap. xviii.

Of the Tygre, and his nature: of Camels, Chamelopardales, and when they were first seene at Rome.

TYgres are bred in Hircania and India: this beast is most dreadfull for incomparable swiftnesse, and most of all seen it is in the taking of her young: for her litter (whereof there is a great

A great number) by the hunters is ſtolne and carried away at once, upon a moſt ſwift horſe for the purpoſe; lying in wait to eſpie when the dam is abroad: and ſhifteth this bootie from one freſh horſe to another, riding away upon the ſpurre as hard as they can. But when the Tigreſſe commeth and finds her neſt and den emptie (for the male Tigre hath no care nor regard at all of the young) ſhe runnes on end after her young ones, and followeth thoſe that carried them away, by the ſent of their horſe ſooting. They perceiving the Tigreſſe to approach by the noiſe that ſhee maketh, let fall or caſt from them one of her whelpes: up ſhee taketh it in her mouth, and away ſhe runneth towards her den ſwifter, for the burden that ſhee carrieth: and preſently ſhe ſetteth out againe, followeth the queſt after her fawnes, and overtaketh the hunter that had them away. Thus runneth ſhe too and fro, untill ſhe ſee that they be embarked and gone, and then for anger
B that ſhe hath hot ſped of her purpoſe, ſhe rageth upon the ſhore and the ſands, for the loſſe of her fawnes.

As for Camels, they are nouriſhed in the Levant or Eaſt parts among other heards of great cattaile. Two kinds there be of them, the Bactrians, and the Arabicke; and herein they differ: the Bactrians have two bunches upon their backes; the other, but one apeece there, but they have another in their breaſt, whereupon they reſt and lie. Both ſorts want the upper row of teeth in their mouthes, like as bulls and kine. In thoſe parts from whence they come, they ſerve all to carrie packes like labouring horſes, and they are put to ſervice alſo in the warres, and are backed of horſemen: their ſwiftneſſe is comparable to that of horſes: they grow to a juſt meaſure, and exceed not a certaine ordinarie ſtrength. The camell in his travailing, will not goe a jote farther
C than his ordinarie journey, neither will carrie more than his accuſtomed and uſuall lode. Naturally they hate horſes. They can abide to be foure daies together without drinke; and when they take occaſion to drinke and meet with water, they fill their skin full enough to ſerve both for the time paſt and to come: but before they drinke, they muſt trample with their feet to raiſe mud and ſand, and ſo trouble the water, otherwiſe they take no pleaſure in their drinking. They live commonly 50 yeeres, and ſome of them an hundred. Theſe creatures alſo otherwhile fall to be mad, ſo much as it is. Moreover, they have a deviſe to ſplay even the very females, to make them ſerviceable for the warres; for if they be not covered, they become the ſtronger and more courragious.

Two other kinds of beaſts there be, that reſemble in ſome ſort, the Camels: the one is called
D of the Æthyopians, the Nabis, necked like an horſe, for legge and foot not vnlike the bœufe, headed for all the world as a camell, beſet with white ſpots upon a red ground, whereupon it taketh the name of Camelopardalus: & the firſt time that it was ſeen at Rome, was in the games Circenſes ſet out by *Cæſar* Dictatour: ſince which time, hee commeth now and then to Rome, to be looked upon more for ſight than for any wild nature that he hath: whereupon ſome have given her the name of a Savage ſheepe.

Chap. xix.

Of the Chaus and Cephis.

E THe Hind-wolfe, which ſome call Chaüs; and the Gaules were wont to name Rhaphius (reſembling in ſome ſort a wolfe with Leopards ſpots) were ſhewed firſt in the ſolemnitie of the games and plaies exhibited by *Cn. Pompeius* the Great. He alſo brought out of Æthyopia other beaſts, named * Cephi, whoſe fore-feet were like to mens hands, and the hinder feet and legges reſembled thoſe of a man. He was never ſeene afterwards at Rome. * Semivulpes.

Chap. xx.

Of the Rhinoceros.

F IN the ſame ſolemnities of *Pompey*, as many times elſe, was ſhewed a Rhinoceros, with one horne and no more, and the ſame in his ſnout or muzzle. This is a ſecond enemie by nature to an Elephant. He fileth that horne of his againſt hard ſtones, and maketh it ſharpe againſt he ſhould fight; and in his conflict with the Elephant, he layeth principally at his bellie, which he knoweth to be more tender than the reſt. He is full as long as he, his legges are much ſhorter, and of the boxe colour.

G

Chap. xxi.

Of Lynces or Onces, and Marmozets or Apes, called Sphinges: of Crocutes, Monkies, Indiſh bœufes, Leococrutes, Eale: Æthiopian bulles, the Mantichore, and Lycornes: of the ſerpents called Catoblepes, and the Baſiliske

ONces are common, ſo are Marmozets, with a browne duskiſh haire, having dugs in their breaſt. Æthiopia breedeth them, like as many other monſtrous beaſts: to wit, horſes with wings, and armed with hornes, which they call Pegaſi. Alſo the Crocutes [a kind of maſtive dogges] engendred betwen a dog and a wolfe: theſe are able to craſh with their teeth whatſoever they can come by, and a thing is no ſooner downe their ſwallow and got into their ſtomacke, but preſently they digeſt it. Moreover, the * Monkies with blacke heads, otherwiſe haired like Aſſes, differing from other Apes in their crie. The Indians have certaine bœufes with one horn, and others with three. Alſo the Leocrocuta, a moſt ſwift beaſt, as big almoſt as an hee-aſſe, legged like an Hart, with a neck, taile, and breaſt of a Lion, headed like theſe grayes or badgers, with a cloven foot in twaine: the ſlit of his mouth reacheth to his eares: in ſtead of teeth, an entire whol bone. They report, that this beaſt counterfeiteth a mans voice. They have among them beſides all theſe, another beaſt named Eale, for bigneſſe equal to the river-horſe, tailed like to an Elephant, either blacke or reddiſh tawnie of colour: his mandibles or chawes reſemble thoſe of a bore: he hath hornes above a cubit long, which he can ſtirre or moove as hee liſt; for being in fight, hee can ſet them both or one of them as hee will himſelfe, altering them every way; one while ſtreight forward to offend, other whiles bending byas, as he hath reaſon to nort or puſh, to ward or avoid his enemie. But the moſt fell and cruell of all others in that countrey, be the wild bulls of the forreſt, greater than our common field bulles: moſt ſwift, of colour brended, their eyes gray or blewiſh, their haire growing contrarie, their mouth wide and reaching to their ears: their hornes likewiſe hard by, mooveable; their hide as hard as a flint, checking the dent of any weapon whatſoever, and cannot be pierced: all other wild beaſts they chaſe and hunt; themſelves cannot be taken but in pit-fals: in this their wildneſſe and rage they die, and never become tamed. *Cteſias* writeth, that in Æthiopia likewiſe there is a beaſt which he calleth Mantichora, having three rankes of teeth, which when they meet togither are let in one within another like the teeth of combes: with the face and eares of a man, with red eyes; of colour ſanguine, bodied like a lyon, and having a taile armed with a ſting like a ſcorpion: his voice reſembleth the noiſe of a flute and trumpet ſounded together: very ſwift he is, and mans fleſh of all others hee moſt deſireth. In India, there be found bœufes whole hoofed, with ſingle hornes: alſo a wild beaſt named * Axis, with a skin like a fawn or hind-calfe; howbeit marked with more ſpots, and thoſe whiter. This beaſt is conſecrated to *Bacchus*, and under his protection. The Orſians of India hunt Apes, and take a number of them, white all over. But the moſt fell and furious beaſt of all other, is the Licorne or Monoceros: his bodie reſembleth an horſe, his head a ſtagge, his feet an Elephant, his taile a bore; he loweth after an hideous manner; one blacke horn he hath in the mids of his forehead, bearing out two cubits in length: by report, this wild beaſt cannot poſſibly be caught alive. Among the Heſperian Æthyopians, there is a fountaine named Nigris, the head (as many have thought) of the river Nilus, and good reaſons there be to carrie it, which we have alleadged before: neere to which ſpring, there keepeth a wild beaſt called Catoblepes, little of bodie otherwiſe, heavie alſo and ſlow in all his limmes beſides, but his head onely is ſo great that his bodie is hardly able to beare it; hee alwaies carrieth it downe toward the earth, for if hee did not ſo, he were able to kill all mankind: for there is not one that looketh upon his eyes, but hee dyeth preſently. The like propertie hath the ſerpent called a Baſiliske: bred it is in the province Cyrenaica, and is not above twelve fingers-breadth long: a white ſpot like a ſtarre it carrieth on the head, and ſetteth it out like a coronet or diademe: if he but hiſſe once, no other ſerpents dare come neere: he creepeth not winding and crawling byas as other ſerpents doe, with one part of the bodie driving the other forward, but goeth upright and aloft from the ground with the one halfe part of his bodie: he killeth all trees and ſhrubs not only that he toucheth, but that he doth breath upon alſo: as for graſſe and hearbs, thoſe hee findgeth and burneth up, yea and breaketh ſtones in ſunder: ſo venimous and deadly is he. It is received for a truth, that one of them upon a

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* Cercopitheci.

* As ſome think, a Muskcat.

time

A time was killed with a launce by an horſeman from his horſebacke, but the poiſon was ſo ſtrong that went from his bodie along the ſtaffe, as it killed both horſe and man: and yet a ſillie weazle hath a deadly power to kill this monſtrous ſerpent, as pernicious as it is [for many kings have been deſirous to ſee the experience thereof, and the manner how he is killed.] See how Nature hath delighted to match every thing in the world with a concurrent. The manner is, to caſt theſe weazles into their holes and cranies where they lye, (and eaſie they be to know, by the ſtinking ſent of the place all about them:) they are not ſo ſoone within, but they overcome them with their ſtrong ſmell, but they die themſelves withall; and ſo Nature for her pleaſure hath the combat diſpatched.

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Chap. xxii.

Of Wolves.

IT is commonly thought likewiſe in Italie, that the eye-ſight of wolves is hurtfull; in ſo much, as if they ſee a man before he eſpie him, they cauſe him to looſe his voice for the time. They that be bred in Affricke and Ægypt, are but little, and withall nothing lively but without ſpirit. In the colder clime, they be more eger and cruel. That men may be transformed into wolves, and reſtored againe to their former ſhapes, we muſt confidently beleeve to be a lowd lie, or elſe give credit to all thoſe tales which wee have for ſo many ages found to be meere fabulous untruths. But how this opinion grew firſt, and is come to be ſo firmely ſetled, that when wee would give men the moſt opprobrious words of defiance that we can, wee tearme them * *Verſipelles*, I thinke it not much amiſſe in a word to ſhew. *Euanthes* (a writer among the Greekes, of good account and authoritie) reporteth, that hee found among the records of the Arcadians, That in Arcadia there was a certain houſe and race of the *Antæi*, out of which one evermore muſt of neceſſitie be transformed into a wolfe: and when they of that familie have caſt lots who it ſhall be, they uſe to accompanie the partie upon whome the lot is falne, to a certaine meere or poole in that countrey: when he is thither come, they turne him naked out of all his clothes, which they hang upon an oke thereby: then he ſwimmeth over the ſaid lake to the other ſide, and being entred into the wilderneſſe, is preſently transfigured and turned into a wolfe, and ſo keepeth compa-

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* Turn-coats.

D nie with his like of that kind for nine yeeres ſpace: during which time, (if he forbeare all the while to eat mans fleſh) he returneth againe to the ſame poole or pond, and being ſwomme over it, receiveth his former ſhape againe of a man, ſave onely that hee ſhall looke nine yeeres elder than before. *Fabius* addeth one thing more and ſaith, That he findeth againe the ſame apparell that was hung up in the oke aforeſaid. A wonder it is to ſee, to what paſſe theſe Greekes are come in their credulitie: there is not ſo ſhameleſſe a lye, but it findeth one or other of them to uphold and maintaine it. And therefore *Agriopas*, who wrote the Olympionicæ, telleth a tale of one *Demænetus Parrhaſius*, That he upon a time at a certain ſolemne ſacrifice (which the Arcadians celebrated in the honour of *Iupiter Lycæus*) taſted of the inwards of a child that was killed for a ſacrifice, according to the manner of the Arcadians (which even was to ſhed mans

E blood in their divine ſervice) and ſo was turned into a wolfe: and the ſame man ten yeeres after, became a man againe, was preſent at the exerciſe of publicke games, wreſtled, did his devoir, and went away with victorie home againe from Olympia. Over and beſides, it is commonly thought and verily beleeved, that in the taile of this beaſt, there is a little ſtring or haire that is effectuall to procure love, and that when he is taken at any time, hee caſteth it away from him, for that it is of no force and vertue unleſſe it be taken from him whiles he is alive. He goeth to rut in the whole yeere not above twelve daies. When he is very hungrie and can get no other prey, he feedeth upon the earth. In the caſe of preſages and fore-tokens of things to come, this is obſerved, That if men ſee a wolfe abroad, cut his way and turne to their right hand, it is good; but if his mouth be full when he doth ſo, there is not a better ſigne nor more luckie in the world again.

F There be of this kind that are called Hart-wolves, ſuch as wee ſaid that *Pompey* ſhewed in the grand Cirque, brought out of Fraunce. This beaſt (they ſay) be he never ſo hungry when hee is eating, if he chaunce to looke backe, forgetteth his meat, ſlinketh away, and ſeeketh for ſome other prey.

G

Chap. xxiii.

Of Serpents.

As touching Serpents, wee see it ordinarie that for the most part they are of the colour of the earth wherein they lie hidden: and an infinite number of sorts there be of them. The Serpent Cerastes hath many times foure small hornes, standing out double: with moving whereof shee amuseth the birds, and traineth them unto her for to catch them, hiding all the rest of her bodie.

The Amphisbæna hath two heads, as it were, that is to say, one at the taile, as if shee were not hurtfull ynough to cast her poison at one mouth only. Some are skaled, others spotted and painted: but generally, the venome of them all is most deadly. There bee of them, that from the boughes of trees shoot and launce themselves: in such manner, as that we are not onely to take heed of Serpents, as they goe and glide upon the ground, but also to looke unto them that flie as a dart or arrow sent out of an engine. The Aspides swell about the necke when they purpose to sting: and no remedie is there for them that are stung or bitten by them, unlesse the parts that are wounded, bee cut off presently. This pestilent creature, as venomous as hee is, hath one point yet of understanding or affection rather: you shal not see them wandering abroad but two and two together, the male and female, as if they were yoked together; and unneth, or not at all, can they live alone without their mate: so that if the one of them bee killed, it is incredible how the other seeketh to bee revenged. It pursueth the murderer, it knoweth him againe amongst a number of people, be they never so many: him it courseth, and laieth for his life: notwithstanding what difficulties soever, it breaketh through all, be it never so farre thither, and nothing may impeach this revenging humor, unlesse some river be betweene to keepe it backe, or that the partie make speed and escape away in great hast. And I assure you, I am not able to say, whether Nature hath beene more free and prodigall in sending among us such noisome things, or giving us remedies againe for them. For to begin withall: she hath affourded to this hurtfull creature but a darke sight, and a dim paire of eies; and those not placed in the fore-part of the head, to see forward and directly, but set in the very temples. And hereof it is, that these Serpents are raised oftener by their hearing than sight.

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Chap. xxiiii.

Of the Rat of India, called Ichneumon.

Besides the foresaid infirmitie, there is mortall warre betweene them and the Ichneumones or rats of India. A beast this is, well knowne to the Aspis, in this regard especially, that it is bred likewise in the same Ægypt. The manner of this Ichneumon is, to wallow oftentimes within the mud, and then to drie it selfe against the Sunne: and when hee hath thus armed himselfe as it were with many coats hardnesse in this manner, he goeth forth to combat with the Aspis. In fight he sets up his taile, & whips about, turning his taile to the enemie, & therin latcheth and receiveth all the strokes of the Aspis, and taketh no harme thereby: and so long maintaineth he a defensive battell, untill he spie a time, turning his head aside, that he may catch the Aspis by the throat, & throttle it. And not content thus to have vanquished this enemie, he addresseth himselfe to a conflict with another, as hurtfull every way and dangerous as the former.

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Chap. xxv.

Of the Crocodile, Scinke, and River-horse.

The river Nilus nourisheth the Crocodile: a venomous creature, foure footed, as daungerous upon water as the land. This beast alone, of all other that keepe the land, hath no use of a tongue. He onely moveth the upper jaw or mandible, wherewith he biteth hard: and otherwise terrible hee is, by reason of the course and ranke of his teeth which close one within another, as if two combes grew together. Ordinarily, he is above eighteene cubites in length. The female laieth egs as big as geese doe: and sitteth ever upon them out of the water. For a certaine naturall fore-knowledge she hath, how farre Nilus the river will that yeare rise when hee is at the higheſt,

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A higheſt, and without it will ſhee bee ſure to ſit. There is not another creature againe in the world, that of a ſmaller beginning, groweth to a bigger quantitie. His feet be armed with clawes for offence, and his skin ſo hard, that it wil abide any injurie whatſoever, and not be pierced. All the day time the Crocodile keepeth upon the land, but hee paſſeth the night in the water: and in good regard of the ſeaſon he doth both the one and the other. When hee hath filled his bellie with fiſhes, he lieth to ſleepe upon the ſands in the ſhore: and for that he is a great and greedie devourer, ſomewhat of the meat ſticketh evermore betweene his teeth. In regard whereof commeth the wren, a little bird called there Trochilos, and the king of birds in Italie: and ſhee for her victuals ſake, hoppeth firſt about his mouth, falleth to pecking and piking it with her little neb or bill, and ſo forward to the teeth, which ſhe cleanſeth; and all to make him gape. Then getteth ſhee within
B his mouth, which he openeth the wider, by reaſon that he taketh ſo great delight in this her ſcraping and ſcouring of his teeth and chawes. Now when he is lulled as it were faſt aſleepe with this pleaſure and contentment of his: the rat of India, or Ichneumon abovesaid, ſpieth his vantage, and ſeeing him lie thus broad gaping, whippeth into his mouth, and ſhooteth himſelfe downe his throat as quicke as an arrow, and then gnaweth his bowels, eateth an hole through his bellie, and ſo killeth him.

Within the river Nilus there breeds another Serpent called Scincos, like in forme and proportion ſomewhat to the Crocodile, but not all ſo big as the Ichneumon: the fleſh whereof ſerveth for a ſingular Antidote or countre-poyſon; as alſo for to provoke the heat of luſt in men.

But to returne againe to the Crocodile: the miſcheefe that he doth is ſo great, that Nature is
C not content to have given him one mortall enemie and no more; and therefore the Dolphins alſo enter the river Nilus in deſpight of the Crocodiles, that take themſelves for kings there, as if this river were their peculiar kingdome: but ſeeing they be otherwiſe inferior to the Crocodiles in ſtrength, who alwaies drive them away from preiding or feeding there, they deviſe to overmatch him in ſlie craft and ſubtiltie, and ſo kill him. And in truth they have certain fins or wings as it were upon their backe, as trenchant and keene as knives, properly made as it were, for this purpoſe. For ſurely all creatures are herein naturally very skilfull and cunning, to know not onely their owne good, and what is for them, but alſo what may hurt and annoy their enemies. Ware they bee what offenſive weapons they have, and of what force they are: they are not ignorant of fit occaſions and opportunities to take their vantage, ne yet of the weake parts of their occur-
D rents, by which they may aſſaile and conquer them the ſooner. Thus the Dolphins knowing full well, that the skin of the Crocodiles bellie is thin and ſoft, make as though they were afraid of them as he commeth, and ſo dive under the water, untill he have gotten under his bellie, & then punch and cut it with the foreſaid ſharp-pointed finnes. Moreover, there is a kind of people that carie a deadly hatred to the Crocodile, and they bee called Tentyrites, of a certaine Iſland even within Nilus, which they inhabite. The men are but ſmall of ſtature, but in this quarrell againſt the Crocodiles, they have hearts of Lions, and it is wonderfull to ſee how reſolute and courageous they are only in this behalfe. Indeed, this Crocodile is a terrible beaſt to them that flie from him: but contrarie, let men purſue him or make head againe, hee runneth away moſt cowardly. Now, theſe Iſlanders be the onely men that dare encountre him affront. Over and beſides, they
E will take the river, and ſwim after them, nay they will mount upon their backes, and ſit them like horſemen: and as they turne their heads, with their mouth wide open to bite or devour them, they will thruſt a club or great cudgell into it croſſe overthwart, and ſo holding hard with both hands each end thereof, the one with the right, and the other with the left, and ruling them perforce (as it were) with a bit and bridle, bring them to land like priſoners: when they have them there, they will ſo fright them onely with their words and ſpeech, that they compell them to caſt up and vomit thoſe bodies againe to bee enterred, which they had ſwallowed but newly before. And therfore it is, that this is the only Iſland which the Crocodiles wil not ſwim unto: for the very ſmell and ſent of theſe Tentyrites is able to drive them away, like as the Pſelli with their ſavour put Serpents to flight. By report, this beaſt ſeeth but badly in the water: but be they once with-
F out, they are moſt quicke-ſighted. All the foure Winter months they live in a cave, and eat nothing at all. Some are of opinion, that this creature alone groweth all his life: and ſurely a great time he liveth.

The ſame river Nilus bringeth foorth another beaſt called Hippopotamus, *i.* a River-horſe. Taller hee is from the ground than the Crocodile: hee hath a cloven foot like a beeſe:

the backe, maine, and haire of an horſe: and he hath his neighing alſo. His muzzle or ſnout turneth up: his taile twineth like the bores, and his teeth likewiſe are crooked and bending downewards as the bores tuskes, but not ſo hurtfull: the skin or hide of his backe unpenetrable [whereof are made targuets and head-peeces of doutie proofe, that no weapon will pierce] unleſſe it be ſoked in water, or ſome liquor. He eateth down the ſtanding corne in the field: and folke ſay, that he ſetteth downe beforehand where he will paſture and feed day by day: and when he ſetteth forward to any field for his releefe, he goeth alwaies backeward, and his tracts are ſeene leading from thence, to the end, that againſt his return he ſhould not be forelaied, nor followed by his footing.

Chap. xxvi.

Who firſt ſhewed the River-horſe and Crocodiles at Rome. Alſo the medicinable meanes found out by the ſaid dumbe creatures.

Marcus Scaurus was the firſt man, who in his plaies and games that hee ſet out by his office of Ædileſhip, made a ſhew of one Water-horſe, and foure Crocodiles, ſwimming in a poole or mote made for the time during thoſe ſolemnities.

The River-horſe hath taught Phyſicians one deviſe, in that part of their profeſſion which is called Chirurgerie. For he finding himſelfe over-groſſe and fat, by reaſon of his high feeding ſo continually, getteth forth of the water to the ſhore, having eſpied afore where the reeds and ruſhes have been newly cut: and where he ſeeth the ſharpeſt cane and beſt pointed, hee ſetteth his bodie hard to it, for to pricke a certaine veine in one of his legges, and thus by letting himſelfe bloud, maketh evacuation: whereby his bodie, otherwiſe enclining to diſeaſes and maladies, is well eaſed of the ſuperfluous humour: and when he hath thus done, he ſtoppeth the orifice again with mud, and ſo ſtancheth the bloud, and healeth up the wound.

Chap. xxvii.

What Phyſicall hearbes certain creatures have ſhewed us, to wit, the Harts and Stags, the Lizards, Swallowes, Torteiſes, the Weaſell, the Storke, the Bore, the Snake, Dragon, Panther, Elephant, Beares, ſtocke Doves, houſe Doves, Cranes, and Ravens.

The like deviſe to this, namely of clyſtres, we learned firſt of a foule in the ſame Ægypt, which is called Ibis (or the blacke Storke.) This bird having a crooked and hooked bill, uſeth it in ſteed of a ſyringe or pipe, to ſquirt water into that part, whereby it is moſt kind and holſome to void the doung and excrements of meat, and ſo purgeth and cleanſeth her bodie. Neither have dumbe creatures directed us to theſe feats onely practiſed by the hand, which might ſerve for our uſe to the preſervation of our health and cure of diſeaſes. For the Harts firſt ſhewed us the vertue of the hearbe Dictamnus or Dittanie, to draw out arrowes forth of the bodie. Perceiving themſelves ſhot with a ſhaft, they have recourſe preſently to that hearbe, and with eating thereof, it is driven out againe. Moreover, they alſo when they are ſtung with the Phalangium, a kind of ſpider, or ſome ſuch venomous vermine, cure themſelves with eating crai-fiſhes, or freſh-water crabbes.

There is a certaine hearbe called Calaminth, moſt ſoveraigne and ſingular againſt the biting of Serpents: wherewith the Lizards, whenſoever they have fought with them, cure their wounds by applying it thereto.

Celendine [the greater] a moſt holeſome hearbe for the eieſight, the Swallowes taught us how to uſe. For with it they helpe their young ones, when their eies be ſore, & put them to griefe.

The land Torteiſe by eating of a kind of Saverie or Marjaram, which they call *Cunila bubula*, armeth himſelfe againſt poyſon, when he ſhould fight with Serpents.

The Weaſell uſeth Rue as a preſervative, when hee purpoſeth to hunt for Rats, in caſe hee ſhould joine in fight with any of them.

The Storke feeling himſelfe amiſſe, goeth to the hearbe Organ for remedie. And the Bore, when hee is ſicke, is his owne Phyſician, by eating yvie and crab-fiſhes, ſuch eſpecially as the ſea caſteth up to ſhore.

The Snake by reſtineſſe and lying ſtill all Winter, hath a certaine membrane or filme growing

A ing over her whole bodie: but having recourse to Fennell, with the juice thereof she casteth that old coat that cloggeth her, and appeareth fresh, slicke, and young again. Now the manner of this her uncasing, is this: she beginneth first at the head, and turneth the skin over it, and thus she is a whole day and a night a folding it backeward, before the inside of that membrane can bee turned outward, and so she is cleane rid of it. Moreover, when by lying still and keeping close all the Winter time, her sight is become dim and darke, shee rubbeth and scoureth her selfe with the said hearbe Fennell, and therewith annointeth and comforteth her eies. But if the skales that are overgrowne her skin, be hard and stiffe, not willing to part and be removed, shee maketh no more adoe, but scratcheth them with sharpe juniper prickes.

The Dragon finding a certaine loathing of meat, and overturning of her stomacke in the
B Spring time, cureth and helpeth the same with the juice of the wild Lectuce.

The barbarous people when they hunt the Panthers, rub the gobbets of flesh, which they lay as a bait for them, with Aconitum (a kind of poyson-full hearb.) The beasts have no sooner touched the flesh, but presently their throat swelleth, and they are readie to bee stifled and choked: wherupon some men have called this venomous hearb Pardalianches, i. Libard baine, or choke Libard. But the wild beast hath a remedie against this, namely, the ordure and excrements of a man: yea, and at other times also, when he is not thus poysoned, so eager he is thereof, that when the sheepheards for the nonce have hanged them up aloft in some vessell above their reach, although they leape up at them, hee is readie to faint with mounting on high, and straining to get the same, and in the end killeth himselfe therwith, and lieth dead on the ground. And yet otherwise he is too untoward for to be killed, and so long it is ere he will die, that when he is paunched,
C and his very guts come forth of his bellie, he will live still, and fight.

The Elephant if he chaunce to let the [Lizard] Chameleon goe downe his throat among other hearbes or leaves, (which this Lizard alwaies is like unto in colour) hee goeth streightwaies to the wild Olive, the onely remedie he hath of this poyson.

Beares, when they have eaten Mandrage apples, licke up Pismires to cure themselves withall.

The Stag and Hind feeling themselves poysoned with some venomous weed among the grasse where they pasture, goe by and by to the Artichoke, and therewith cure themselves.

The Stock-doves, the Iaies, Merles, Blackbirds, Ousels, recover their appetite to meat, which once in a yeare they loose, with eating Bay-leaves that purge their stomacke. Partridges, House-
D doves, Turtledoves, and all Pullein, as Hens, Cockes, and Capons, doe the like with Parietarie of the wall. Duckes, Geese, and other water-foules purge with the hearbe Endive or Cichorie. Cranes and such like helpe themselves that way with the Marish reed.

The Raven when he hath killed the Chameleon, and yet perceiving that hee is hurt and poysoned by him, flieth for remedie to the Lawrell, and with it represseth and extinguisheth the venome that he is infected withall.

Chap. xxviii.

The Prognostication of weather, taken by the observation of dumbe creatures.

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MOreover, the same universall Nature hath given a thousand properties besides unto beasts: and namely, hath endued very many of them with the knowledge and observation of the aire above, giving us good meanes by them diverse waies, to fore-see what weather wee shall have, what winds, what raine, what tempests will follow: which to decipher in particular, it is not possible, no more than to discourse throughly of their other qualities they have, respective to the societie with every man. For they advertise and warne us beforehand of dangers to come, not onely by their fibres and bowels (about the skill and presage whereof, the most part of the world is amused) but also by other manner of tokens and significations. When an house is readie to tumble downe, the mice goe out of it before: and first of all, the spiders with their
F webs fall down. As for the flight of birds and their fore-tokening, called Augurie, there is an Art of it, and the knowledge thereof is reduced into a method, in so much as at Rome there was a colledge of Augures instituted: by which it may appeare in what account and regard that sacerdotall dignitie and profession was. In Thracia, which is a cold and frozen countrey, the Fox also will not passe over any river or poole that is frozen, before hee trie the thicknesse of the yce

by

by his eare, and otherwise it is a beast most quicke of hearing. And obserued it is, that men neuer G
venture therupon, but when he goeth to releese, or returneth from thence, and then he laieth his eare close to the yce, and guesseth thereby how thicke the water is frozen.

Chap. xxix.

What citties and nations haue been vtterly destroied by little beasts.

NOthing is more certain and notorious than this, that much hurt and dammage hath ben known to come from small contemptible creatures, which otherwise are of no reckoning and account. *M. Varro* writeth, That there was a towne in Spain undermined by Connies: and another likewise in Thessalie, by the Moldwarpes. In Fraunce, the inhabitants of one citie H
were driven out and forced to leave it, by Frogs. Also in Affricke the people were compelled by Locusts to void their habitations: and out of Gyaros an Iland, one of the Cyclades, the Islanders were forced by Rats & Mice to flie away. Moreover, in Italie the citie Amyclæ was destroied by Serpents. In Æthyopia, on ths side the Cynamolgi, there is a great countrey lieth wast and desert, by reason that it was dispeopled sometime by Scorpions, and a kind of Pismires called Solpugæ. And if it be true that *Theophrastus* reporteth, the Treriens were chased by certaine worms called Scolopendres. But now let us returne to other kinds of wild beasts.

Chap. xxx.

Of the Hyæna, Crocuta, Mantichora, Bievers, and Otters. I

AS touching Hyænes, it is commonly beleeved, that they have two natures, and that every second yeere they chaunge their sexe, being this yeere males, and the next yeere females. Howbeit, *Aristotle* denieth it. Their necke and the mane therewith, together with the backe, are one entire bone without any joint at all, so as they cannot bend their necke without turning the whole bodie about. Many strange matters are reported of this beast, and above all other, that hee will counterfet mans speech, and comming to the sheepheards cottages, will call one of them forth, whose name he hath learned, and when he hath him without, all to worrie and teare him in peeces. Also it is said, that hee will vomit like a man, thereby to traine dogs to come unto him, and then will devour them. Also, this beast alone of all others, will search for mens bo- K
dies within their graves and sepulchers, and rake them forth. The female is sildome taken. Hee chaungeth his eies into a thousand diverse colours. Moreover, if a dog come within his shadow, he presently looseth his barking, and is quite dumbe. Againe, by a kind of magicall charme or enchantment, if he goe round about any other living creature but three times, it shall not have the power to stirre a foot, and remoove out of the place. The Lioneses of Æthyopia, if they bee covered with any of this kind, bring forth another beast called Leocrocuta, which likewise knoweth how to counterfet the voice both of man, and of other beasts. He seeth continually with both eies: hee hath one entire bone in steed of teeth in either jaw (and no gombs at all) wherewith he cutteth, as with a knife. Now these bones, because they should not waxe dull and blunt with continuall grating one against the other, they are enclosed each of them within a case or sheath. L

Juba reporteth, that the Mantichora also in Æthyopia resembleth mens language. Great store of Hyenes be found in Affricke: which also yeeldeth a multitude of wild asses. And one of the males is able to rule and lead a whole flocke of the female asses. This beast is so jealous, that they looke narrowly to the females great with young: for so soone as they have foled, they bite off the cods of the little ones that be males, and so gueld them. But contrariwise, the she asses when they be big, seeke corners, and keepe out of their way, that they might bring forth their young secretly without the knowledge of the Stallons: for desirous they are to have many males: so lecherous they be, and glad evermore to be covered.

The Bievers in Pontus gueld themselves, when they see how neere they are driven, and bee in danger of the hunters: as knowing full well, that chased they bee for their genetoires: and these M
their stones, Physicians call Castoreum. And otherwise, this is a daungerous and terrible beast with his teeth. For verily, hee will bite downe the trees growing by the river sides, as if they were cut with an axe. Looke where he catcheth hold of a man once, he never leaveth nor letteth loose untill hee have knapped the bone in sunder, and heard it cracke againe. Tailed hee is like a fish,

otherwise

A otherwise he resembleth the Otter. Both these beasts live in the water altogether, and carrie an haire softer than any plume or downe of feathers.

Chap. xxxi.

Of Frogs, Sea-calves, and Star-Lizards called Stelliones.

THe venomous frogs and todes called Rubetæ, which live both on land, and also in the water, yeeld many good things medicinable. It is said, that their manner is to let goe and cast from them all that is good within them, receiving onely to themselves all the poyson: and when they have beene at their food, take the same up againe. The Sea-calfe likewise liveth both
B in the sea, and upon the land: and hath the same nature and qualitie that the beiver is, for hee casteth up his gall, which is good for many medicines: and so he doth his runnet in the maw, which is a singular remedie for the falling sickenesse: for well is he ware, that men seeke after him for these two things. *Theophrastus* writeth, That the Lizards called Stelliones, cast their old coat, like as snakes doe: but when they have so done, they eat it up againe, and so prevent men of the helpe thereby for the said falling evill. He reporteth besides, that their stings and bitings in Greece be venomous and deadly: but in Sicilie harmelesse.

Chap. xxxii.

Of red and fallow Deere.

C THe Bucke or Stag, albeit that he be the most gentle and mild beast in the world, yet is he as envious as the rest, & loth to part with that which is good for others. Howbeit, if he chance to bee overlaied with hounds, then gently of himselfe hee hath recourse to a man. Likewise, the Hinds when they are to calve, chuse rather some place neere to the paths and waies that are beaten with mans steps, than secret corners; for feare of other wild beasts. They begin to goe to rut after the rising of the starre Arcturus, which is much about the fist of September: they goe eight months: and otherwhiles bring two calves at once. Finding themselves that they are sped, they part companie with the Stags. But they againe seeing themselves forsaken, fall into a kind of rage for heat of lust, and dig pits in the ground where they lie hidden. Then begin their muz-
D zles to looke blacke, and so continue, untill such time as some raine wash away that colour. The Hinds before they calve, purge themselves with the hearbe Seselis or Siler-mountaine, whereby they have lesse paine in their bearing, and more speedie & easie deliverance. After they are lightened of their burden, they know where two hearbes be, which they have presently recourse unto, Woke Robin, and the foresaid Siler-mountaine. When they have eaten well thereof, they returne presently to their young. And (for what secret reason in Nature, God knowes) their first milke must have a tast and talang of those two hearbs. Their little ones they practise and exercise to use their legs from the very beginning, so soon as they be come into the world: teaching them even then how they should run away and flie. To high & steepe cragged rockes they bring them, and there shew them how to leape, and withall acquaint them with their dens and places of har-
E borough. And now by this time, the Stags being past the heat of the rut, fall hard to their meat, and feed apace. But so soone as they find themselves to be growne very fat, they seek lurking places, and there abide, confessing as it were how heavie and unweldie they be for fatnesse, and how uncommodious it is unto them. At other times alway they use in their flight to make staies, and take their breath, & as they stand still, to look behind them. But when they espie once the hounds and hunters to be neere unto them, then they fall to running afresh. And this they doe for a pain that they have in their guts, which are so weake and tender, that with a small blow or stripe given unto them, they will burst within their bellies. When they perceive the hunt is up, and heare the hounds crie, they presently run, but ever downe the wind, to the end that the sent of their feet should passe away with them. They take great pleasure and delight in the sound of sheepheards
F pipes, and their song withall. When they set up their eares, they are most quick of hearing: when they let them hang downe, they bee as deafe. Moreover, they are very simple and foolish creatures: amused, yea, and amased they will bee at every thing, and keepe a wondering at it: insomuch, as if an horse, a cow, or an heifer approch neere unto them, they will stand gazing at it, and never regard the hunters neere by: or if they happen to spie him, they will looke at

his

his verie bow, and ſheive of arrowes, as at ſtraunge and wonderous things. They paſſe the G
ſeas ſwimming by flockes and whole heards in a long row, each one reſting his head upon the buttockes of his fellow next before him: and this they doe in courſe, ſo as the foremoſt retireth behind to the hindmoſt, by turnes one after another: and this is ordinarily obſerved by thoſe ſailers that paſſe from Cilicia to Cypres. And yet in their ſwimming they deſcrie no land by the eye, but only by their ſmelling have an aime thereat. The males of this kind are horned, and they (above all other living creatures) caſt them everie yeere once, at a certaine time of the ſpring: and to that purpoſe a little before the very day of their mewing, they ſeek the moſt ſecret corners and moſt out of the way, in the whole forreſt. When they are pollards, they keepe cloſe hidden, as if they were diſarmed: and all this they do, as if they envied that men ſhould have good of any thing that they had. And in very truth, the right horn (they ſay) can never be found, H
as if it had ſome rare and ſingular vertue in Phyſicke. A ſtraunge and marveilous thing, conſidering that in the parkes they chaunge them every yeere, inſomuch as it is thought verily, that they hide them within the earth. But burne whether of them ye will, the left as well as the right, this is certein, That the ſmell and perfume thereof driveth ſerpents away, and diſcovereth them that are ſubject to the fits of the falling diſeaſe. A man may alſo know their age by their heads, for every yeere they have one knag or braunch more in their horns than before, untill they come to ſix: after which time, they come new ever alike; ſo as their age cannot be diſcerned any more by the head, but the marke is taken by their mouth and teeth: for as they grow in age, they have few or no teeth at all, ne yet grow the braunches out at the root, whereas all the while they were younger, they uſed to have them breake forth and ſtanding out at the very fore-head. After they I
be guelded once, neither caſt they their hornes which they had before, neither grow there any if they had none when they were libbed. At the firſt when they breake out againe, like they be to the glandules or kernels of drie skin, that new put forth: then grow they with tender ſtalkes, into certaine round and long knobs of the reed mace, covered all over with a certaine ſoft plume downe like velvet. So long as they be deſtitute of their hornes, and perceive their heads naked, they goe foorth to releeſe by night; and as they grow bigger and bigger, they harden them in the hot ſunne, eftſoons making proofe of them againſt trees; and when they perceive once that they be tough and ſtrong enough, then they goe abroad boldly. And certeinely ſome of them have been taken with green Ivie ſticking faſt and growing in their hornes, remaining there ſince time that they ran them (when they were but tender) againſt ſome trees, for triall whether they K
were good or no, and ſo chaunced to race the Ivie from the wood of the tree. You ſhall have them ſomtime white of colour, and ſuch an one was the hind that *Q. Sertorius* had about, which he perſuaded the people of Spaine to be his ſoothſayer, and to tell him of things to come. This kind of Deere maintaine fight with ſerpents, and are their mortall enemies: they will follow them to their verie holes, and there (by the ſtrength of drawing and ſnuffing up their wind at the noſtrils) force them out whether they will or no: and therfore there is not ſo good a thing again to chaſe away ſerpents, as is the ſmoke and ſmell of an Harts horne burnt. But againſt their ſting or biting, there is a ſingular remedie, with the runnet in the maw of a fawne or Hind-calfe killed in the dams belly. It is generally held and confeſſed, that the Stagge or Hind live long: for an
hundred yeer after *Alexander* the Great, ſome were taken with golden collars about their necks, L
overgrowne now with haire and growne within the skin: which collars, the ſaid king had done upon them. This creature, of all diſeaſes is not ſubject to the fever, but he is good to cure it. I have knowne great ladies and dames of ſtate, uſe every morning to eat the veniſon of red Deere, and thereby to have lived to a great age and never had the ague: but it is thought this is a certaine remedie and never faileth, in caſe the ſtag be ſtrucken ſtarke dead at once with one wound and no more.

Chap. xxxiii.

Of the ſhag-haired and bearded Stagge like to a Goat: as alſo of the Chamæleon. M

OF the ſame kind is the Goat hart, and differing onely in the beard and long ſhag about the ſhoulders, which they call Tragelaphis: and this breedeth no where but about the river Phaſis. Affricke in a manner is the onely countrey that breedeth no ſtags and hinds: but contrari-

A contrariwiſe, it bringeth Chamæleons; although India hath them ordinarily in greater number. In ſhape and quantitie it is made like a Liſard, but that it ſtandeth higher and ſtreighter than the Liſards do, upon his legges. The ſides, flankes, and bellie, meet togither, as in fiſhes: it hath likewiſe ſharpe prickles, bearing out upon the backe as they have: ſnouted it is, for the bigneſſe not unlike to a ſwine, with a very long taile thin and pointed at the end, winding round and entangled like to vipers: hooked clawes it hath, and goeth ſlow, as doth the tortoiſe: his bodie and skin is rough and skalie, as the crocodiles: his eyes ſtanding hollow within his head, and thoſe be exceeding great, one neere unto the other with a verie ſmall portion betweene, of the ſame colour that the reſt of the bodie is: he is alwaies open eyed, and never cloſeth them: hee looketh about him not by mooving the ball of his eye, but by turning the whole bodie thereof: hee ga-
B peth evermore aloft into the aire, and is the onely creature alive that feedeth neither of meat nor drinke, but hath his nouriſhment of aire onely: about wild fig-trees hee is fell and daungerous, otherwiſe harmeleſſe. But his colour naturally is very ſtraunge and wonderfull, for ever and anon he chaungeth it, as well in his eye, as taile and whole bodie beſides: and looke what colour he toucheth next, the ſame alwaies he reſembleth, unleſſe it be red and white. When he is dead, he looketh pale and wan: very little fleſh he hath in head and chawes, and about the joynt where his taile is graffed to his rumpe; but in all the bodie beſides, none at all. All his blood is in his heart, and about his eyes: among other his bowels, he is without a ſplene. Hidden hee lyeth all winter long, as Liſards doe.

C

Chap. xxxiiii.

Of the Buffe, or Tarandus: the Lycaon, and the Thos.

IN Scythia there is a beaſt called Tarandus, which chaungeth likewiſe colour as the Chamæleon: and no other creature bearing haire doth the ſame, unleſſe it be the Lycaon of India, which (by report) hath a maned necke. As for the Thoes (which are a kind of wolves ſomewhat longer than the other common wolves, and ſhorter legged, quicke and ſwift in leaping, living altogether of the veniſon that they hunt and take, without doing any harme at all to men) they may be ſaid, not ſo much to chaunge their hew, as their habite and apparell: for all winter time they be ſhag-haired, but in ſummer bare and naked. The Tarandus is as bigge as an oxe,
D with an head not unlike to a ſtagges, but that it is greater, namely, carrying braunched hornes: cloven hoofed, and his haire as deepe as is the Beares. The hide of his backe is ſo tough and hard, that thereof they make breſt-plates. He taketh the colour of all ttees, ſhrubs, plants, flowers, and places wherein he lieth when he retireth for feare; and therefore ſeldome is he caught. But when he liſt to looke like himſelfe and be in his owne colour, he reſembleth an Aſſe. To conclude, ſtraunge it is that the bare bodie of a beaſt ſhould alter into ſo many colours: but much more ſtraunge it is and wonderfull, that the haire alſo ſhould ſo chaunge.

Chap. xxxv.

Of the Porkpen.

E

THe Porkpens come out of India and Affricke: a kind of Vrchin or Hedgehog they be: armed with pricks they be both; but the Porkpen hath the longer ſharpe pointed quilles, and thoſe, when he ſtretcheth his skin, he ſendeth and ſhooteth from him: when the hounds preaſeth hard upon him, hee flyeth from their mouthes, and then taketh vantage to launce at them ſomewhat farther off. In the winter he lyeth hidden, as the nature is of many beaſts to doe, and the Beares above the reſt.

Chap. xxxvi.

Of the Beares, and how they breed and bring forth their young.

F

THey ingender in the beginning of winter, not after the common manner of other four-footed beaſts, but lying both along, claſping and embracing one another: then they goe apart into their dennes and caves, where the ſhee beare thirtie daies after is diſcharged of her burden, and bringeth forth commonly five whelpes at a time. At the firſt, they ſeeme to be a

lumpe of white flesh without all forme, little bigger than rattons, without eyes, and wanting hair: G
onely there is some shew and apparance of clawes that put forth. This rude lumpe, with licking they fashion by little and little into some shape: and nothing is more rare to be seen in the world, than a shee beare bringing foorth her young: and this is one cause that the male beares are not to be seene in 40 daies, nor the female for 4 moneths. If they have no holes and dennes for the purpose, they build themselves cabbins of wood, gathering together a deale of boughes and bushes, which they couch and lay artificially together, to beare off any showre, so as no raine is able to enter; and those they strew upon the floore with as soft leaves as they can meet withall. For the first fourteen daies (after they have taken up their lodging in this manner) they sleepe so soundly, that they cannot possibly be wakened, if a man should lay on and wound them. In this drowsinesse of theirs, they grow wondrous fat. This their grease and fat thus gotten, is it that is H
so medicinable, and good for those that shed their haire. These 14 dayes once past, they sit upon their rumpe or buttocks, and fall to sucking of their fore-feet, and this is all their food whereof they live for the time. Their young whelpes, when they are starke and stiffe for cold, they huggle in their bosome and keepe close to their warme breast, much like to birds that sit upon their egs. A straunge and wonderfull thing it is to be told, and yet *Theophrastus* beleeveth it, That if a man take beares flesh during those daies, and seeth or bake the same, if it be set up and kept safe, it will grow nevertheless. All this time they dung not, neither doth there appeare any token or excrement of meat that they have eaten: and very little water or aquositie is found within their bellie. As for blood, some few small drops lie about the heart only, and none at all in the whole bodie besides. Now when spring is come, forth they goe out of their denne; but by that time, the I
males are exceeding overgrowne with fat: and the reason thereof cannot be readily rendred: for as we said before, they had no more but that fortnights sleepe to fat them withall. Being now gotten abroad, the first thing that they doe, is to devoure a certaine hearb named Aron, *i.* Wake-robin, and that they doe to open their guts, which otherwise were clunged and growne togither: and for to prepare their mouthes and teeth again to eat, they whet and set the edge of them with the yong shoots and tendrons of the briers and brambles. Subject they are many times to dimnesse of sight: for which cause especially they seeke after hony-combes, that the bees might settle upon them, and with their stings make them bleed about the head, and by that meanes discharge them of that heavinesse which troubleth their eyes. The Lions are not so strong in the head, but beares be as weake and tender there: and therefore when they be chased hard by hun- K
ters and put to a plunge, ready to cast themselves headlong from a rocke, they cover and arme their heads with their fore-feet and pawes, as it were with hands, and so jumpe downe: yea and many times, when they are baited in the open shew-place, we have knowne them laid streaking for dead with one cuffe or box of the eare given them with a mans fist. In Spaine it is held for certaine, that in their braine there is a venimous qualitie; and if it be taken in drinke, driveth men into a kind of madnesse, so as they will rage as if they were beares: in token whereof, whensoever any of them be killed with baiting, they make sure worke and burn their heads all whole. When they list, they will go on their two hinder feet upright: they creepe downe from trees backward: when they fight with bulls, their manner is to hang with all their foure feet, about their head and hornes, and so with the very weight of their bodies wearie them. There is not a living creature L
more craftie and foolish withall, when it doth a shrewd turne. We find it recorded in the Annals of the Romanes, that when *M. Piso* and *M. Messala* were Consuls, *Domitius Ænobarbus* an Ædile Curule, upon the 14 day before the Calends of October, exhibited 100 Numidian beares to be baited and chased in the great Cirque, and as many Æthiopian hunters. And I marveile much, that the chronicle nameth Numidian, since it is certein, that no bears come out of Africk.

Chap. XXXVII.

Of the Rats of Pontus, and the Alpes: also of Vrchins and Hedgehogs.

M

THe Rats of Pontus, which be onely white, come not abroad all winter: they have a most fine and exquisite taft in their feeding; but I wonder how the Authours that have written this, should come to the knowledge of so much. Those of the Alpes likewise, *i.* Marmottanes, which are as bigge as Brockes or Badgers, keepe in, during winter: but they are provided

of

A of victuals before-hand which they gather together and carrie into their holes. And some say, when the male or female is loden with grasse and hearbs, as much as it can comprehend within all the foure leggos, it lieth upon the backe with the said provision upon their bellies, and then commeth the other, and taketh old by the taile with the mouth, and draweth the fellow into the earth: thus doe they one by the other in turnes: and hereupon it is, that all that time their backs are bare, and the haire worne off. Such like Marmotanes there be in Ægypt; & in the same manner they sit ordinarily upon their buttocks, and upon their two hinder feet they goe, using their fore-feet in stead of hands.

Hedgehogs also make their provision before-hand of meat for winter, in this wise. They wallow and roll themselves upon apples and such fruit lying under foot, and so catch them up with
B their prickles, and one more besides they take in their mouth, & so carrie them into hollow trees. By stopping one or other of their holes, men know when the wind turneth, and is changed from North to South. When they perceive one hunting of them, they draw their mouth & feet close togither, with all their belly part, where the skin hath a thin down & no pricks at all to do harme, and so roll themselves as round as a foot-ball, that neither dog nor man can come by any thing but their sharpe-pointed prickles. So soon as they see themselves past all hope to escape, they let their water go and pisse upon themselves. Now this urine of theirs hath a poisonous qualitie to rot their skin and prickles, for which they know well enough that they be chased and taken. And therfore it is a secret and a special pollicie, not to hunt them before they have let their urine go; and then their skin is verie good, for which chiefly they are hunted: otherwise it is naught ever
C after and so rotten, that it will not hang togither, but fall in peeces: all the pricks shed off, as being putrified, yea although they should escape away from the dogs and live still: and this is the cause that they never bepisse and drench themselves with this pestilent excrement, but in extremitie and utter despaire: for they cannot abide themselves their owne urine, of so venimous a qualitie it is, and so hurtfull to their owne bodie; and doe what they can to spare themselves, attending the utmost time of extremitie, insomuch as they are ready to be taken before they do it. When the Vrchin is caught alive, the devise to make him open again in length, is to besprinkle him with hot water; and then by hanging at one of their hin-feet without meat they die with famine: otherwise it is not possible to kil them and save their case or skin. There be writers who bash not to say, That this kind of beast (were not those pricks) is good for nothing, and may well be
D missed of men: & that the soft fleece of wooll that sheep bear, but for these pricks were superfluous & to no purpose bestowed upon mankind: for with the rough skin of these Vrchins, are brusshes and rubbers made to brush & make clean our garments. And in very truth, many have gotten great gaine and profit by this commoditie and merchandise, and namely, with their craftie devise of monopolies, that all might passe through their hands only: notwithstanding there hath not ben any one disorder more repressed, and reformation sought by sundry edicts and acts of the Senate in that behalfe: every prince hath been continually troubled hereabout with grievous complaints out of all provinces.

Or rather instead of tazels that shearmen use.

Chap. xxxviii.

E

Of the Leontophone, the Once, Badgers, and Squirrils.

TWo other kinds there be of beasts, whose urine worketh straunge and wonderfull effects. The one is called Leontophonos, and he breedeth in no countrey but where there be lions: a little creature it is, but so venimous, that the lyon (king of beasts, before whome all others tremble) for all his might and puissance, dieth presently if hee tast never so little thereof. And therefore they that chase the lion, get all the Leontophones that they can come by, burne their bodies, and with the pouder of them bestrew and season as it were the pieces of other flesh that they lay for a bait in the forrest, and thus with the verie ashes (I say) of his enemie, kill him: and deadly and pernicious is it to the lion. No marveile therefore if the lion abhorre and hate him,
F for so soon as he espieth him, he crusheth him with his pawes, and so killeth him without setting tooth to his bodie. The Leontophone for his part againe, is as readie to bedrench him with his urine, knowing right well that his pisse is a verie poison to the Lion.

In those countries where the Onces breed, their urine (after it is made) congealeth into a certain ycie substance, and waxeth dry, & so it comes to be a certain precious stone like a carbuncle,

glittering and ſhining as red as fire, and called it is Lyncurium. And upon this occaſion many G
have written, that Amber is engendred after the ſame manner. The Onces knowing thus much,
for verie ſpight and envie, cover their urine with mould or earth, and this maketh it ſo much
the ſooner to harden and congeale.

The Grayes, Polcats, or Brocks, have a caſt by themſelves, when they be affraid of hunters:
for they will draw in their breath ſo hard, that their skin beeing ſtretched and puffed up withall,
they will avoid the biting of the hounds tooth, and checke the wounding of the hunter, ſo as nei-
ther the one nor the other can take hold of them.

The Squirrils alſo foreſee a tempeſt comming, and where the wind will blow: for looke in
what corner the wind is like to ſtand, on that ſide they ſtop up the mouth of their holes, & make
an overture on the other ſide againſt it. Moreover, a goodly broad buſht taile they have, where- H
with they cover their whole bodie. Thus you ſee how ſome creatures provide victuals againſt
winter, others battle and feed with ſleepe only.

Chap. xxxix.

Of the Viper, land-winkles or Snailes, and Lizards.

OF all other ſerpents, it is ſaid, that the Viper alone lieth hidden in the ground during win-
ter, whereas the reſt keepe within cranies and clifts of trees, or elſe in the hollow chinkes
of ſtones: and otherwiſe they are able to endure hunger a whole yeer, ſo they be kept from
extreame cold. All the while during their retreat and lying cloſe within, they ſleep as if they were I
dead and deprived of their power to poiſon.

In like manner doe Perwinkles and Snailes; but not onely in the winter ſeaſon, but in ſummer
againe they lie ſtill, cleaving ſo hard to rocks and ſtones, that although by force they be plucked
off and turned with their bellies upward; yet they will not out of their ſhell. In the Baleare Ilands
there be a kind of them called Cavaticæ, which never creep out of the holes within the ground,
neither live they of any graſſe or greene hearb, but hang together like cluſters of grapes. Ano-
ther ſort there is of them, but not ſo common, hiding themſelves within the cover of their ſhell,
ſticking ever faſt unto them: theſe lie alwaies under the ground, and were in times paſt digged up
onely about the Alpes, along the maritime coaſts: but now of late they be diſcovered in Veliter-
num alſo, where men begin to get them out of the earth. But the beſt of them all and moſt com- K
mendable, are thoſe in the Iland Aſtypelæa.

As touching Liſards (deadly enemies to the Snailes or Winkles above-named) men ſay,
they live not above ſixe moneths. In Arabia, the Lizards bee a cubite in length: and in the
mountaine Niſa of India, they bee foure and twentie foot long; ſome tawnie, ſome light red,
and others blew of colour.

Chap. xl.

Of Dogges.

AMong thoſe domeſticall creatures that converſe with us, there be many things worth the L
knowledge: and namely, as touching dogges (the moſt faithfull and truſtie companions
of all others to a man) and alſo horſes. And in verie truth, I have heard it credibly repor-
ted, of a dogge, that in defence of his maſter, fought hard againſt theeves robbing by the high
way ſide: and albeit he were ſore wounded even to death, yet would he not abandon the dead bo-
die of his maſter, but drave away both wild-foule and ſavadge beaſt, from ſeizing of his carkaſſe.
Alſo of another in Epirus, who in a great aſſembly of people knowing the man that had murde-
red his maſter, flew upon him with open mouth, barking and ſnapping at him ſo furiouſly, that
he was readie to take him by the throat, untill hee at length confeſſed the fact that ſhould cauſe
the dog thus to fome and rage againſt him. There was a king of the Garamants exiled, and re-
covered his royall ſtate againe by the meanes of 200 dogs that fought for him againſt all thoſe M
that made reſiſtance, and brought him home maugre his enemies. The Colophonians and Ca-
ſtabaleans, maintained certaine ſquadrons of maſtive dogges, for their warre-ſervice: and thoſe
were put in the vaward to make the head and front of the battaile, and were never known to draw
backe and refuſe fight. Theſe were their truſtieſt auxiliaries and aid-ſouldiers, and never ſo needie

as

A as to call for pay. In a battell when the Cimbrians were defeated and put all to the sword, their dogges defended the baggage, yea, and their houses (such as they were) carried ordinarily upon charriots. *Iason* the Lycian had a dogge, who after his master was slaine, would never eat meat, but pined himselfe to death. *Duris* maketh mention of another dogge, which he named Hircanus, that so soone as the funerall fire of king *Lysimachus* his master was set a burning, leapt into the flame. And so did another at the funerals of king *Hiero*. Moreover, *Physistus* reporteth as strange a storie of king *Pyrrhus* his dogge: as also of another belonging to the tyrant *Gelo*. The Chronicles report of a dog that *Nicomedes* king of Numidia kept, which flew upon the queene *Consingis* his wife, & all to mangled and worried her, for toying and dallying overwantonly with the king her husband. And to go no farther for examples, even with us here at Rome, *Volcatius* a
B noble gentleman (who taught *Cesselius* the civile law) as he returned home one evening late, riding upon an hackney from a village neere the citie, was assailed by a theefe upon the high way, but he had a dog with him that saved him out of his hands. *Cælius* likewise, a Senatour of Rome, lying sick at Plaisance, chanced to be assailed by his enemies, wel appointed and armed; but they were not able to hurt and wound him, by reason of a dogge that he had about him, untill such time as they had killed the said dogge. But this passeth all, which happened in our time, and standeth upon record in the publicke registers, namely, in the yeere that *Appius Iunius* and *P. Silus* were Consuls, at what time as *T. Sabinus* and his servants were executed for an outrage committed upon the person of *Nero*, sonne of *Germanicus*: one of them that dyed had a dog which could not be kept from the prison dore, and when his master was throwne downe the staires (cal-
C led Scalæ Gemoniæ) would not depart from his dead corps, but kept a most piteous howling and lamentation about it, in the sight of a great multitude of Romans that stood round about to see the execution and the manner of it: and when one of the companie threw the dogge a peece of meat, he streightwaies carried it to the mouth of his master lying dead. Moreover, when the carkasse was throwne into the river Tiberis, the same dog swam after, & made all the means he could to beare it up aflote that it should not sinke: and to the sight of this spectacle and fidelitie of the poore dogge to his master, a number of people ran forth by heapes out of the citie to the water side. They be the onely beasts of all others that know their masters; and let a straunger unknowne be come never so sodainly, they are ware of his comming, and will give warning. They alone know their owne names, and all those of the house by their speech. Be the way ne-
D ver so long, and the place from whence they came never so farre, they remember it and can goe thither againe. And surely, setting man aside, I know not what creature hath a better memorie. As furious and raging as they be otherwhiles, yet appeased they will be and quieted, by a man sitting down upon the ground. Certes, the longer we live, the more things we observe and marke still in these dogges. As for hunting, there is not a beast so subtle, so quicke, and so fine of sent, as is the hound: he hunteth and followeth the beast by the foot, training the hunter that leads him by the collar and leash, to the very place where the beast lieth. Having once gotten an eye of his game, how silent and secret are they notwithstanding? and yet how significant is their discoverie of the beast unto the hunter? first, with wagging their taile, and afterwards with their nose and snout, snuffing as they doe. And therefore it is no marveile, if when hounds or beagles be over
E old, wearie, and blind, men carrie them in their armes to hunt, for to wind the beast, and by the very sent of the nose to shew and declare where the beast is at harbour. The Indians take great pleasure to have their salt bitches to be lined with tygres: and for this purpose, when they goe proud, they couple and tie them togither, and so leave them in the woods for the male tygres: howbeit they reare neither the first nor second litter of them, supposing that the dogs thus bred, will be too fierce and eger; but the third, they nourish and bring up. Semblably, thus do the Gaules by their dogges that are engendred of wolves: and in every chase and forrest there be whole flocks of them thus engendred, that have for their guide, leader, and captaine, one dogge or other: him they accompanie when they hunt; him they obey and are directed by: for surely, they keepe an order among themselves, of government and mastership. This is knowne for cer-
F taine, that the dogges which be neere unto Nilus, lap of the river, running still and never stay while they are drinking, because they will give no vantage at all to be a prey unto the greedie Crocodiles. In the voyage that *Alexander* the Great made into India, the king of Albania gave him a dogge of an huge and extraordinarie bignesse. And *Alexander* taking great delight and contentment to see so goodly and so faire a dog, let loose unto him first Beares, afterwards

wild Bores; and laſt of all, fallow Deere. But this dog making no reckoning of all this game, G
lay ſtill couchant, and never ſtirred nor made at them. This great Commaunder *Alexander*, a man of a mightie ſpirit and high mind, offended at the lazineſſe and cowardiſe of ſo great a bodie, commaunded that he ſhould be killed, and ſo he was. Newes hereof went preſently to the king of Albanie. Whereupon he ſent unto him a ſecond dog, with this meſſage, That he ſhould not make triall of this too againſt ſuch little beaſts, but either ſet a Lion or an Elephant at him: ſaying moreover, that hee had in all but thoſe two of that kind: and if hee were killed likewiſe, hee were like to have no more of that race and breed. *Alexander* made no ſtay, but preſently put out a Lion, and immediately hee ſaw his backe broken, and all to rent and torne by the dog. Afterwards he commaunded to bring forth an Elephant, and in no ſight tooke he greater pleaſure, than in this. For the dog at the firſt with his long rough ſhagged haire, that H
overſpread his whole bodie, came with full mouth, thundering (as it were) and barking terribly againſt the Elephant. Soone after he leapeth and flieth upon him, riſing and mounting againſt the great beaſt, now of one ſide, then of another: maintaining combate right artificially, one while aſſailing, another while avoiding his enemie: and ſo nimbly he beſtirreth him from ſide to ſide, that with continuall turning about too and fro, the Elephant grew giddie in the head, inſomuch as he came tumbling downe, and made the ground to ſhake under him with his fall. Bitches breed and beare young every yeere lightly once: and the due time for them to be with whelpes, is when they are full a yeere old. They goe with young threeſcore daies. Their puppies come blind into the world: and the more milke they ſucke, the later it is ere they receive their ſight: but as it is never above twentie daies ere they ſee, ſo they open not their eies under I
ſeven daies old. Some ſay, that if a bitch bring but one at a litter, it will ſee by nine daies: if twaine, it will be ten daies firſt: and the more puppies ſhee hath, the more daies it will be in that proportion ere they ſee. Moreover, that the bitch-whelpe that commeth of the firſt litter, ſee ſtrange bugs and goblins. The beſt of the whole litter is that whelpe, that is laſt ere it begin to ſee: or elſe that which the bitch carrieth firſt into her kennill. The biting of mad dogs are moſt dangerous to a man, as we have ſaid before, eſpecially during the dog-daies, while the dog-ſtar Syrius is ſo hote: for they that are ſo bitten, lightly are afraid of water, which is a deadly ſigne. To prevent therefore that dogs fall not mad, it is good for thirtie or fortie daies ſpace, to mingle hens or pullins dung eſpecially with their meat: againe, if they be growing into that rage, or tainted alreadie, to give them Ellebore with their meat. K

Chap. xli.

Againſt the biting of a mad Dog.

THe ſure and ſoveraigne remedie for them that are bitten with a mad dog, was revealed lately by way of Oracle: to wit, the root of a wild roſe, called the ſweet Brier or Eglantine. *Columella* writeth, That when a whelpe is juſt fortie daies old, if his taile be bitten off at the nethermoſt joint, & the ſinew or ſtring that commeth after, be likewiſe taken away, neither the taile will grow any more, nor the dog fall ever to bee mad. I have my ſelfe obſerved, that among the prodigies it is reported, how a dog ſometime ſpake, as alſo that a ſerpent barked, that yeere when L
Tarquine the prowd was depoſed and driven out of Rome.

Chap. xlii.

Of Horſes, and their nature.

THe ſame *Alexander* the Great, of whom erewhile wee ſpake, had a very ſtraunge and rare horſe, whom men called Bucephalus, either for his crabbed and grim looke, or elſe of the marke or brand of a buls head, which was imprinted upon his ſhoulder. It is reported, that *Alexander* being but a child, ſeeing this faire horſe, was in love with him, and bought him out of the breed and race of *Philonicus* the Pharſalian, and for him paied ſixteene talents. He would ſuffer no man to ſit him, nor come upon his backe, but *Alexander*; and namely, when hee had the kings ſaddle on, and was alſo trapped with roiall furniture: for otherwiſe hee would admit any whomſoever. The ſame horſe was of a paſſing good and memorable ſervice in the warres: and namely, being wounded upon a time at the aſſault of Thebes, he would not ſuffer *Alexander* to M
alight

A alight from his backe, and mount upon another. Many other strange and wonderfull things hee did: in regard whereof, when he was dead, the king solemnized his funerals most sumptuously; erected a tombe for him, and about it built a citie that bare his name, Bucephalia. *Cæsar* Dictatour likewise had another horse, that would suffer no man to ride him but his maister: & the same horse had his forefeet resembling those of a man: and in that manner standeth he pourtraied before the temple of *Venus*, Mother. Moreover, *Augustus Cæsar*, late Emperour of famous memorie, made a sumptuous tombe for an horse that he had, whereof *Germanicus Cæsar* compiled a poëme. At Agrigentum there be seene Pyramides over many places where horses were entombed. *Juba* reporteth, That queene *Semiramis* loved a great horse that she had, so farre forth, that shee
B was content hee should doe his kind with her. The Scythians verily take a great pride and glorie much in the goodnesse of their horses and Cavallerie. A king of theirs happened in combat and single fight upon a challenge to bee slaine by his enemie, and when hee came to despoile him of his armes and roiall habite, the kings horse came upon him with such furie, flinging and laying about him with his heeles, and biting withall, that hee made an end of the conquerour-champion. There was another great horse hoodwinked because hee should cover a mare: but perceiving after that he was unhooded that he served as a stalion to his own dam that foled him, ran up to a steepe rocke with a downefall, and there for greefe cast himselfe downe and died. We find also in record, That in the territorie of Reate there was a mare killed and all to rent an horsekeeper upon the same occasion. For surely these beasts know their parentage, and those that are next to them in bloud. And therefore wee see that the colts will in the flocke more willingly keepe companie
C and sort with their sisters of the former yeere, than with the mare their mother. Horses are so docible and apt to learne, that we find in histories, how in the armie of *Sybaritanes*, the whole troop of horsemen had their horses under them, and used to leape and daunce to certaine musick that they were wonted and accustomed unto. They have a fore-knowledge when battell is toward, they will mourne for the losse of their maisters: yea, and otherwhiles shed teares and weepe pitiously for love of them. When king *Nicomedes* was slaine, the horse for his owne saddle, would never eat meat after, but for very anguish died with famine. *Philarchus* reporteth, That king *Antiochus* having in battell slaine one *Centaretus*, a brave horseman of the Gallogreekes or Galatians, became maister of his horse, and mounted upon him in triumphant wise: But the horse of him that lay dead in the place, and upon whom *Antiochus* was mounted, for very anger and in-
D dignation at this indignitie, passed neither for bitt nor bridle, so as he could not be ruled; and so ran furiously among the crags and rockes, where both horse and man came downe headlong, and perished both together. *Philistus* writeth, That *Dionysius* was forced to leave his horse sticking fast in a quave-mire, and got away: but the horse after hee had recovered himselfe, and was gotten forth, followed the tracts of his maister, with a swarme or cast of bees setling in his mane: and this was the first presage of good fortune that induced *Denis* to usurpe the kingdome of Sicilie. Of what perceivance and understanding they be, it cannot be expressed: & that know those light horsemen full well that use to launce darts and javelines from horsebacke, by the hard service that they put their horses to; which they performe with great dexteritie & resolution in straining, winding, and turning their bodies nimbly every way. Nay, ye shall have of them to gather
E up darts and javelines from the ground, and reach them againe to the horseman. And commonly we see it to be an ordinarie matter with them in the great race or shew place, when they are set in their geires to draw the chariots, how they joy when they are encouraged and praised; giving no doubt a great proofe, and confessing that they are desirous of glorie. At the Secular solemnities, exhibited by *Claudius Cæsar*, in the Circensian games, the horses with the white liverie, (notwithstanding their driver and governor, the charioter, was cast and flung to the ground even within the barres) wan the best price, & went away with the honour of that day. For of themselves they brake and bare downe whatsoever might empeach them of running the race throughout: they did all that ever was to bee done against their concurrents and adversaries of the contrarie side, as well as if a most expert chariot-man had beene over their backes to direct and instruct
F them. At the sight whereof, men were ashamed to see their skill and art to be overmatched & surmounted by horses. And to conclude, when they had performed their race, as much as by law of the game was required, they stood still at the very goale, and would no farther. A greater wonder and presage was this in old time, that in the Circensian games exhibited by the people, the horses after they had flung and cast their governour, ran directly up to the Capitoll, as well as if hee

had ſtood ſtill in his place, and conducted them; and there fetcht three turnes round about the temple of *Iupiter*. But the greateſt of all was this which I ſhall now tell, That the horſes of *Ratumenas*, who had woon the price in the horſe-running at Veij, threw their maiſter down; & came from thence, even out of Tuſcane, as far as to the foreſaid Capitoll, carrying thither the Palme branch and chapelet of *Victorie* woon by *Ratumenas* their maiſter: of whom the gate Ratumena took afterwards the name at Rome. The Sarmatians minding to take a great journey, prepare their horſes two daies before, and give them no meat at all: onely a little drink they allow them, and thus they will ride them gallop 150 miles an end, and never draw bridle. Horſes live many of them 50 yeeres, but the mares not ſo long. In five years they come to their full growth, whereas ſtone horſes grow one yeere longer. The making of good horſes indeed, and their beautie, ſuch as a man would chuſe for the beſt, hath beene moſt elegantly and abſolutely deſcribed by the Poët *Virgill*. And ſomewhat alſo have I written of that argument, in my booke which I lately put foorth, as touching Tournois and ſhooting from horſebacke: and in thoſe points required, and there ſet downe, I ſee all writers in manner to agree. But for horſes that muſt bee trained to runne the race, ſome conſiderations are to be had and obſerved, different from horſes of other uſe and ſervice. For whereas to other affaires and emploiments they may be brought when they are two yeere old colts, and not upward; to the Liſts they muſt not bee brought to enter into any maiſtries there, before they be full five yeares of age. The female in this kind goe eleven moneths compleat with yong, and in the twelfth they fole. Commonly the ſtalion and the mare are put together, when both of them are full two yeares old: and that about the Spring Æquinoctiall, that is to ſay, in mid-march: but if they be kept aſunder untill they are full three years of age, they breed ſtronger colts. The Stalion is able to get colts untill he be three and thirtie yeers old: for commonly when they have ſerved in the race, and run full twentie years, they are diſcharged from thence, & let goe abroad for to ſerve mares. And men ſay that they will hold to fortie years with a little helpe put to the forepart of his bodie, that he may bee lifted up handſomely to cover the mare. Few beaſts beſides are leſſe able to engender and leape the female often, nor ſooner have ynough of them. For which cauſe they be allowed ſome ſpace between every time that they doe their kind. And in one yeare the moſt that the Stallion is able to doe that way, is to cover fifteene mares, and that is ſomewhat with the ofteneſt. If ye would coole the courage, and quench the luſt of a mare, ſhare and clip her mane. And yet are mares ſufficient to beare every yeare, untill they come to fortie. It is reported, that an horſe hath threeſcore and fifteene yeares. Mares only of all other females, are delivered of their foles, ſtanding on their feet: but love them more than any other doe their young. Theſe foles verily, by report, have growing on their forehead, when they bee newly come into the world, a little blacke thing of the bigneſſe of a fig, called Hippomanes, and it is thought to have an effectuall vertue to procure and win love. The dam hath not ſo ſoone foled, but ſhe bites it off, and eats it her ſelfe: and if it chance that any bodie preventeth her of it, and catcheth it from her, ſhee will never let the fole ſucke her. The very ſmell and ſent thereof, if it bee ſtollen away, will drive them into a fit of rage and madneſſe. If peradventure a young fole looſe the damme, the other mares of the common heard that are milch nurces, give their teats to this poore orphan, and reare it up in common. They ſay that for three daies after they be newly foled, the young colts cannot lay their mouth to the ground, and touch it. Moreover, the hotter ſtomacked that an horſe is, the deeper hee thruſteth his noſe into the water as hee drinketh. The Scythians chuſe rather to uſe their mares in warre-ſervice than their ſtone-horſes: the reaſon is this, that their ſtaling is no hinderance to their pace in running their carriere, as it doth the horſe, who muſt needs then ſtand ſtill. In Portugall, along the river Tagus, and about Lisbon, certaine it is, that when the Weſt wind bloweth, the mares ſet up their tailes, and turne them full againſt it, and ſo conceive that genitall aire in ſteed of naturall ſeed: in ſuch ſort, as they become great withall, and quicken in their time, and bring foorth foles as ſwift as the wind, but they live not above three yeares. Out of the ſame Spaine, from the parts called Gallicia and Aſturia, certaine ambling jennets or nags are bred, which wee call Thieldones: and others of leſſe ſtature and proportion every way, named Aſturcones. Theſe horſes have a pleaſant pace by themſelves differing from others. For albeit they bee put to their full pace, a man ſhall ſee them ſet one foot before another ſo deftly and roundly in order by turnes, that it would doe one good to ſee it: and hereupon horſe-breakers (maiſters) have an art by cords to bring an horſe to the like amble. A horſe is ſubject to the ſame diſeaſes in manner that a man is: and beſides, to the turning

of

A of the bladder: like as all other beasts that labour, either in draught or cariage.

Chap. xliii.

of Asses.

Varro writeth, That *Q. Axius*, a Romane Senatour, bought an Asse which cost him foure hundred thousand Sesterces: a price in my conceit above the worth of any beast whatsoever: and yet (no doubt) hee was able to doe wondrous good service in carrying burdens, plowing the ground, and principally in getting of mules. The chapmen that use to buy these Asses, have a speciall regard to the place from whence they come, and where they bee bred. For in
B Achaia or Greece, those of Arcadia be in greatest request: and in Italie, those of Reate. This creature of all things can worst away with cold: which is the cause that none of them are bred in Pontus. Neither doe they engender as other such like beasts in the Spring Æquinoctiall, *i.* about mid-March: but in mid-Iune, about the time of the Sunne-steed, when daies be at the longest. Hee Asses, the more you spare them in their worke, the worse they are for it. The females are at the least thirtie moneths, or two yeares and halfe old before they bring any young: but three yeares is the ordinarie and due time indeed. They goe as long as mares, and just so many months, and after the same manner doe they sole. But after they be covered, they must be forced to runne presently, with beating and laying upon them, or else they will let goe their seed againe; so slipperie is their wombe, and so unapt to keepe that which once it hath conceived. They are seldome
C seene to bring foorth two at once. The shee Asse, when shee is about to sole, seeketh some secret blind corner to hide her selfe, that shee might not bee seene of any man. Shee breeds all her life time, which commonly is untill she be thirtie yeeres old. They love their young soles exceeding well: but as ill, or rather worse, can they abide any water. To their little ones they will goe through fire; but if there be the least brooke or rill betweene, they are so affraid of it, that they dare not once dip their feet therein. And verily drinke they will not, but of their accustomed fountaines, within the pastures where they use to goe: but they will be sure to chuse their way, and goe drie to their drinke, and not wet their hoofe: neither will they goe over any bridges where the planks are not so close drawn together and jointed, but that they may see the water through, under their feet; or the railes of each side so open, that the river is seene. A strange nature they have by themD selves. Thirstie they are, but bee they never so drie, if you chaunge their watering place (as in travelling upon their way) they must be forced to drinke with cudgels, or else unloden of their burdens. Whersoever they bee stabled, they love to lie at large and have roume ynough. For in their sleepe they dreame, and have a thousand fancies appearing to them: insomuch, as they fling about them with their heeles every way: now if they were not at libertie, and had void space ynough, but should beat against some hard thing in their way, they would soone be lame, & halt withall. They be very gainefull and profitable to their maisters, yeelding more commoditie than the revenues of good farmes. It is well knowne, that in Celtiberia a shee Asse ordinarily with very breeding may bee worth unto them 400000 Sesterces. For the foling and bringing foorth of Mules, the principall thing to be regarded in the shee Asse, is the haire about the eares and eieE lids. For howsoever the whole bodie besides bee of one and the same colour, yet shall the mules foled, have as many colours as were there, all over the skin. *Mecænas* was the first that at feasts made a daintie dish of young Asse soles, and preferred their flesh in his time before the venison of wild Asses. But when he was dead and gone, they were not thought so good meat, nor accepted any whit. If an Asse be seene to die, looke soone after, that the whole race and kind of them will follow to the very last.

Chap. xliiii.

of Mules.

F BEtweene the hee Asse and a Mare is a mule engendred, and foled in the twelfth moneth: a beast of exceeding strength to beare out all labour and travell. For breeding of such mules, they chose Mares that are not under foure yeares old, nor above ten. Men say, that they will drive away one another in both kinds, and not accompanie together, unlesse they tasted the milk and sucked the dam when they were young, of that kind which they would cover. And for this purpose

purpoſe they uſe to ſteale away either the young Aſſe foles, and ſet them in the darke to the teats G
of the Mare, or els the young colts to ſucke of the ſhee Aſſe. For there is a kind of Mule alſo that
commeth of a ſtone horſe and a female Aſſe: but of all others they be untoward and unruly, and
ſo ſlow withall, that it is unpoſſible to bring them to any good ſervice: & much more (as all things
els) if they be farre in age when they engender. If when a ſhee Aſſe hath taken the horſe, and bee
ſped, there come an Aſſe and cover her againe, ſhe will caſt her fruit untimely, and looſe all: but
it is not ſo if an horſe cover her after an Aſſe. It is obſerved and found by experience, that ſeven
daies after an Aſſe hath foled, is the beſt time to put the male unto her, and then ſooneſt will ſhe
be ſped: as alſo, that the hee Aſſes being wearie with travell, will better cover the females than o-
therwiſe, if they be reſtie. That Aſſe is held for barren, which is not covered, nor conceiveth, be-
fore ſhe have caſt her ſucking or foles-teeth: whereby the age is knowne: as alſo ſhe which ſtan- H
deth not to the firſt covering but looſeth it. In old time they uſed to call thoſe Hinuli, which were
begotten betweene an horſe and an Aſſe: and contrariwiſe Mules, ſuch as were engendred of an
Aſſe and a Mare. Moreover, this is obſerved, that if two beaſts of divers kinds do engender, they
bring forth one of a third ſort, and reſembling neither of the parents: alſo, that ſuch begotten
in this manner, what kind of creatures ſoever they bee, are themſelves barren and fruitleſſe, una-
ble either to beare or beget young. And this is the cauſe that the ſhee mules never breed. Wee
find verily in our Chronicles, that oftentimes Mules brought forth yong foles, but it was alwaies
taken for a monſtrous and prodigious ſigne. And yet *Theophraſtus* ſaith, That in Cappadocia or-
dinarily they doe beare and bring foles: but they are a kind by themſelves. Mules are broken of
their flinging and wincing, if they uſe often to drinke wine. It is found written in many Greeke I
authors, That if an hee Mule cover a Mare, there is engendred that which the Latines call Hin-
nus, that is to ſay, a little Mule. Betweene Mares and wild Aſſes made tame, are engendred a kind
of Mules, very ſwift in running, and exceeding hard hoofed, lanke and ſlender of bodie, but fierce
and courageous, and unneth or hardly to be broken. But the Mule that commeth of a wild Aſſe
and a female tame Aſſe, paſſeth all the reſt. As for wild Aſſes, the very beſt and floure of them be
in Phrygia and Lycaonia. In Affricke, the fleſh of their foles is held for excellent good meat, and
ſuch they call Laliſiones. It appeareth in the Chronicles of Athens, that a Mule lived 80 yeares.
And reported thus much there is of it, That when they built the temple, within the citadell there-
of, this old Mule being for age able to doe nothing elſe, would yet accompanie other Mules that
laboured and caried ſtones thither, and if any of them were readie to fall under their lode, would K
ſeeme to releeve and hold them up, and (as it were) encourage them to his power: inſomuch as
the people tooke ſo great delight and pleaſure therein, that they made a decree, and tooke order
that no corne-maiſters that bought and ſold grain, ſhould beat this Mule away from their ram-
ging ſives (when they cleanſed or winnowed their corne) but that he might eat under them.

Chap. xlv.

Of Buls, Kine, and Oxen.

THe Bœufes of India are as high by report as Cammels, and foure foot broad they are be-
tweene the hornes. In our part of the world, thoſe that come out of Epirus, are moſt com- L
mended, and beare the greateſt price above all others; and namely thoſe, which they ſay are
of the race and breed of king *Pyrrhus*, who that way was very curious. For this prince becauſe hee
would have a principall good breed, would not ſuffer the Buls to come unto the Kine and ſeaſon
them, before they were both foure yeares old. Mightie big they were therefore, and ſo they conti-
nue of that kind unto this day. Howbeit, now when they be but heyfers of one year, or two years
at the moſt (which is more tollerable) they are let goe to the fellow and breed. Buls may well en-
gender and ſerve kine when they bee foure yeare old: and one of them is able all the yeare long
to goe with ten kine, and ſerve their turne. They ſay moreover, that a Bull, after hee hath leapt a
cow, and done his kind, if he goe his way toward the right hand, he hath gotten an oxe calfe: but
contrariwiſe, a cow calfe, if he take the left hand. Kine commonly take at their firſt ſeaſoning: but M
if it chaunce that they miſſe and ſtand not to it, the twentieth day after they ſeeke the fellow, and
goe a bulling againe. In the tenth month they calve: and whatſoever falleth before that tearme,
never proveth nor commeth to good. Some write, that they calve juſt upon the laſt day of the
tenth month complete. Seldome bring they foorth two calves at a time. Their ſeaſoning time

commonly

A commonly continueth thirtie daies, namely, from the riſing of the Dolphin ſtarre, unto the day before the Nones of Ianuarie. Howbeit, ſome there be that goe to ſellow in Autumne. Certes, in thoſe countries where the people live altogether of milk, they order the matter ſo, that their kine calve at all times, ſo as they are not without their food of freſh milke all the yeare long. Buls willingly leape not above two kine at moſt in one day. Bœufes alone of al living creatures can graſe going backward: and verily among the Garamants they never feed otherwiſe. Kine live not above fifteene yeares at the utmoſt: Buls and Oxen come to twentie. They be in their full ſtrength when they are five yeares old. It is ſaid, that they will grow fat, if they be bathed with hote water: or if a man ſlit their hide, and with a reed or pipe blow wind betweene the fleſh and the skin, even into their entrailes. Kine, Buls, and Oxen, are not to be deſpiſed as unkindly, although they looke
B but illfavouredly, and bee not ſo faire to the eie: for in the Alpes, the leaſt of bodie are the beſt milch kine. And the beſt labouring Oxen are they which are yoked by the head, and not the necke. In Syria they have no dewlaps at all hanging under the neck, but bunches ſtanding up on their backs in ſteed therof. They of Caria alſo, a countrey in Aſia, are illfavoured to be ſeen, having between their necks & ſhoulders a tumor or ſwelling hanging over; beſides, their horns are looſe, and (as it were) out of joint: and yet by report they are paſſing good of deed, and labor moſt ſtoutly. Furthermore, it is generally held for certaine, that the black or white in this kind are ſimply the worſt for worke, and condemned. Buls have leſſer and thinner hornes than either Kine or Oxen. The beſt time to bring the Oxe or the Bull to the yoke, and make him draw, is at three yeares of age: after, it is too late; and before, with the ſooneſt. A yong Stere is ſooneſt trained and
C taught to draw, if he be coupled in one yoke with another that hath beene wrought alreadie and beaten to his worke. For this beaſt is our companion, and laboureth together with us, in earing and plowing the ground: and ſo highly regarded was the Oxe in old time of our forefathers, that we find it regiſtred upon record, That a certaine Romane was judicially endited, accuſed, & condemned by the people of Rome, for that (to ſatisfie the mind of a wanton minion and catamite of his, who ſaid he had not eaten any tripes all the while he was in the countrey) he killed an Oxe, although he was his owne: yea, and for this fact was baniſhed, as if hee had ſlaine his Grangier and Bailife of his husbandrie. Buls are knowne to bee of a good kind and courageous, by their fierce and grim countenance, for they alwaies looke crabbed and frowning: their eares are overgrowne with ſtiffe haires, and their hornes ſo ſtanding, as if they were ever diſpoſed and readie to
D fight. But all his threatening and menaces appeare in his foreſeet; with them hee gives warning, and as he is more and more angrie, hee beſtirreth himſelfe now with the one foot, and then with another, in courſe and by turnes, ſtamping and pawing with them againſt the ground, raiſing and flinging the duſt about him aloft into the aire: and of all other beaſts, he alone after this maner enchaufeth himſelfe, and giveth an edge unto his anger. I my ſelfe have ſeen them fight one with another for the maiſtrie: I have ſeene them, being turned and ſwong round about in their fall, caught up with the hornes of others, and yet riſe againe and recover themſelves: I have ſeene them lying along, to be raiſed aloft from the ground; and when they have run all amaine with full pace, galloping in their chariots, yet ſtaied and ſtood ſtill when they ſhould, as if the charioters had cauſed them to reſt. The Theſſalians were they who deviſed with prauncing horſe
E to ride gallop cloſe to the Buls head to take them by the horne, wryth their necks downe, and ſo kill them. The firſt that exhibited this pleaſant ſhew unto the people at Rome, was *Cæſar* Dictatour. The Bull yeeldeth the principall and moſt ſumptuous ſacrifice of all other unto the gods, and therewith are they beſt pleaſed. This beaſt alone, of all thoſe that are long tailed, when it firſt commeth into the world, hath not the taile of the full meaſure and perfect length, as others: but it groweth ſtill, untill it reach downe to the very heeles, and touch the ground. And hereupon it is, that in chuſing of calves to ſacrifice with, thoſe are allowed for good and ſufficient, whoſe taile commeth downe to the joint of the haugh or gambrill: for if it be ſhorter, they will not be received and accepted of the gods. This alſo is noted by experience, that calves ſo little (that they bee brought on mens ſhoulders to the altars for to bee killed) lightly are not ſufficient to appeaſe the
F gods. Neither are they pacified and well pleaſed with a beaſt that is lame and maimed; nor with that which is not appropriat unto them, but to ſome other gods; ne yet with it that reculeth from the altar, and is loth to come to it. In the prodigies that wee read of auncient times, wee find very often that Kine and Oxen have ſpoke: upon the report of which ſtraunge token, the Senate was ever wont to aſſemble in ſome open place abroad, and not to ſit either in hall or chamber.

CHAP.

G

Chap. xlvi.

Of the Bœufe or Oxe, named Apis.

IN Ægypt alſo they had an Oxe, which the people of that countrey adored and worſhipped as a god, under the name of Apis. This beaſt was marked in this manner: with a white ſpot on his right ſide, like to the horns or tips of the new moone croiſſant; a knot or bunch under the tongue, which they called Cantharus: by their religion it was not lawfull to ſuffer him to live above a certein number of yeers; at the end of which tearme, they drowne him in a cerrain well or fountaine of their prieſts, and ſo ſhorten his life; and then with great ſorrow fall to ſecke another to ſubſtitute in his place: untill they find him, they mourne and waile, and in token of griefe H and ſorrow, they ſhave their heads. But long they never are before they meet with another: and when they have him, hee is by the prieſts brought to Memphis: where hee hath two temples, which they call Thalami, *i.* bed-chambers: out of which, all the people of Ægypt, as from an oracle, are enformed truly of things to come. For if this oxe enter into the one of them, it is a good luckie ſigne; but if hee goe into the other, then it portendeth great misfortune and infortunitie. And theſe be generall preſages to the whole nation. As for privat perſons, he foretelleth them of things to come, by the manner of taking meat at their hands who come to know what fortune they ſhall have. He turned away his head from the hand of *Germanicus Cæſar*, & would eat no meat when he offered it him; but he died for it, and that not long after. Hee is kept ſecret and cloſe for the moſt part: but if at any time hee get forth and come abroad to be ſeene of the I multitude of people, hee goeth with a guard of tipſtaves to make way for him; and then a companie of pretie boyes goe chaunting before him canticles and ſongs, in his honour and praiſe: for it ſeemeth that he taketh heed to what they ſing, and is well pleaſed and contented thus to be worſhipped. Now theſe quireſters beforeſaid, preſently fall into a kind of furious rage, and withall, are inſpired with the gift of propheſie, and ſo fore-tell what will enſue. Once a yeere there is preſented unto him, a cow, which hath markes likewiſe as hee hath, but differing from his: and alwaies upon what day this cow is found, the ſame day by report, it dieth. At Memphis, there is a place within Nilus, which the inhabitants name Phiola, becauſe it is made in faſhion of a pot or boll: and therein duely everie yeere the Ægyptians drowne two cups, one of ſilver, and another of gold, during ſeven daies, dedicated to ſolemnize the nativitie of their god *Apis*. And this K is one thing to be wondered at, That in that ſeven-night ſpace, there is not one that taketh hurt by Crocodiles: but let the eigth day come once, within ſix houres they returne to their former miſchievous cruelti.

Chap. lxvii.

The nature of ſheepe, and their breeding.

SHeepe likewiſe are in great requeſt, both in regard that they ſerve as ſacrifices to pacifie the gods, and alſo by reaſon that their fleece yeeldeth ſo profitable an uſe: for even as men are beholden to the bœufe for their principall food and nouriſhment which they labour for, ſo L they muſt acknowledge, that they have their cloathing and coverture of their bodies from the poore ſheepe. The ramme and ewe both, are fit for generation from two yeeres of age upward untill they come to nine, and ſome alſo untill they be ten yeers old. The lambes that they yeane firſt, are but little ones. They goe all generally to rut about the ſetting of Arcturus, that is to ſay, upon the third day before the Ides of May: and their heat laſteth unto the full of the Ægle ſtar, namely, the tenth day before the Calends of Auguſt. They be with young 150 daies. If any take the ramme after that time, the fruit that they beare commeth to no good, but proove weake. And ſuch lambs as fall after that ſeaſon, they called in old time *Cordos*, *i.* later lambs. Many men doe prefer theſe winter lambs before thoſe that come in ſpring: the reaſon is, becauſe it is much better they ſhould be ſtrong before the heat of ſummer and the long daies, than againſt the cold M of winter and the ſhorteſt daies: and they thinke, that this creature onely taketh good by being yeaned in the mids of winter. It is kind and naturall for rammes to make no account of young hogrels, but to loath them; for they had rather follow after old ewes. Himſelfe alſo is better when he is old, and more luſtie to leape the ewes. To make them more mild and gentle, they uſe to

bore

A bore his horne about the root neere unto his eares. If his right cullion or ſtone be tied up, hee getteth ewe lambs; but if the left be taken up, hee getteth ramme lambes. If ewes be alone by themſelves without the flocke when it thundreth, they caſt their lambes. The onely remedie is to gather them togither, that by companie and fellowſhip they may have helpe. They ſay, that if the North winds blow when they take the ramme, they will bring forth males; but if the South winds be up, females. Moreover, great regard there is had in this kind, to the mouthes of the rammes: for looke what colour the veines be under their tongue, of the ſame will the fleece be of the lambes, that is to ſay, of ſundrie colours, in caſe the veines were divers coloured. Alſo the chaunge of water and drinkes maketh them to alter their hew. In ſumme, two principall kinds there be of ſheepe, that is to ſay, the one reared within houſe, and the other abroad in the field:
B the firſt is the tenderer, but the other more pleaſant meat and delicate in taſt; for thoſe within-houſe feed upon briers and brambles. The clothes and coverings made of the Arabicke wooll, are chiefe of all.

Chap. xlviii.

Divers kinds of wooll and clothes.

THe beſt wooll of all other, is that of Apulia: then, that which in Italie is named the Greeke ſheepes wooll, but in other countries is named Italian. In the third ranke, the Mileſian ſheepe and their wooll, carrie the prize. The wooll of Apulia is of a ſhort ſtaple, and ſpecially in requeſt for cloakes and mantles, and nothing elſe. About Tarentum and Canuſium, the
C richeſt of this kind are found: as alſo at Laodicea in Aſia. As for whiteneſſe, there is none better than that which groweth along the Po, namely, about Piemount and Lombardie: and yet never to this day, a pound of it hath exceeded the price of an hundred ſeſterces. In all places they uſe not to ſheare ſheepe: for the manner of pluckiag their fells continueth ſtill in ſome countries. Sundrie ſorts of colours there be in wooll, and ſo many, that we are not able to give ſeverall names ſo much as to thoſe that wee call Native, *i.* growing upon the ſheepes backe. For blacke fleeces, Spaine is chiefe; Pollentia for white; and grey, the tract of Piemont neere to the Alpes: Aſia for red hath no fellow, and ſuch kind of wools are called Erythræ. In Bœotia likewiſe, that is to ſay, in the kingdome of Granade and Andaluſia, the ſame colour is to be found. Neere to Canuſia, the ſheepe be deepe yellow or tawnie: and about Tarentum, they are of a
D browne and duskiſh colour. Generally, all kind of woolls newly ſhorne or plucked, unwaſht and greaſie ſtill, be good and medicinable. About Iſtria and Liburnia, the ſheepes fleece reſembleth haire rather than wooll, nothing at all good for to make frized clothes with a high nap: but ſerveth onely for the artizan or workman in Portugall, whoſe artificiall weaving in net or ſcutcheon worke with ſquares, commendeth this wooll. The like wooll is common about Piſſenæ in the province Narbonenſis, *i.* Languedoc in Fraunce: and ſuch is found in Ægypt: the cloth made thereof, after it is worne bare, is then died, and ſerveth new againe, and will weare ſtill and laſt a mans life. The courſe rough wooll with the round great haire, hath been of auncient time highly commended and accounted of in tapeſtrie worke: for even *Homer* himſelfe witneſſeth, that they of the old world uſed the ſame much, and tooke great delight therein. But this tapeſtrie is
E ſet out with colours in Fraunce, after one ſort, and among the Parthians after another. Moreover, wool of it ſelfe driven togither into a felt without ſpinning or weaving, ſerveth to make garments with: and if vinegre be uſed in the working therof, ſuch felts are of good proo fe to bere off the edge and point of the ſword; yea and more than that, they will checke the force of the fire. And the laſt cleanſing and refuſe thereof (when it is taken out of the coppers and leads of thoſe that have the fulling and dreſſing thereof) ſerveth for flock-worke and to ſtuffe mattreſſes: an invention (as I ſuppoſe) which came firſt out of Fraunce: for ſurely theſe flockes and quilted mattreſſes, are at this day diſtinguiſhed and knowne one from another by French names. But I am not able eaſily to ſet downe at what time firſt this workmanſhip began: for certein it is, that in old time men made them pallets and beds of ſtraw, or elſe lay upon bare mattes, like as now adayes
F ſouldiers in the campe make ſhift with hairie rugges. As for our mantles, friezed deep both without and within, they were invented and came to be uſed firſt, no longer ſince than in my fathers dayes: as alſo theſe hairie counterpoints and carpets. For the ſtudded caſſockes that Senatours and noble men of Rome doe weare, begin but now for to be woven after the manner of deepe frieze rugges. Wooll that is blacke, will take no other hew, nor bee dyed into any colour.

As

As touching the manner how to die other wools, wee will speake in convenient place, namely, G
when we shall treat of the purples and sea shell fishes, and of certain hearbes good for that purpose. *M. Varro* writeth, That within the temple of *Sangus*, there continued unto the time that he wrote his booke, the wooll that ladie *Tanaquil*, otherwise named *Caia Cæcilia*, spun: together with her distaffe and spindle: as also, within the chappell of Fortune, the very roiall robe or mantle of Estate, made with her owne hands after the manner of water-chamlot in wave worke, which *Servius Tullus* used to weare. And from hence came the fashion & custome at Rome, that when maidens were to be wedded, there attended upon them a distaffe, dressed and trimmed with kembed wooll, as also a spindle and yearne upon it. The said *Tanaquil* was the first that made the coat or cassocke woven right out all through, such as new beginners (namely, young souldiours, barristers, and fresh brides) put on under their white plaine gowns, without any guard of purple. H
The waved water chamelot, was from the beginning esteemed the richest and bravest wearing. And from thence came the branched damaske in broad workes. *Feneſtella* writeth, That in the latter time of *Augustus Cæsar* they began at Rome to use their gownes of cloth shorne, as also with a curled nap. As for those robes which are called Crebræ and Papaveratæ, wrought thicke with floure-worke, resembling poppies; or pressed even and smooth; they be of greater antiquitie: for even in the time of *Lucilius* the Poet, *Torquatus* was noted and reprooved for wearing them. The long robes embrodered before, called Prætextæ, were devised first by the Tuscanes. The Trabeæ were roiall robes, and I find that kings and princes onely ware them. In *Homers* time also they used garments embrodered with imagerie and floure-worke: & from thence came the triumphant robes. As for embroderie it selfe and needle worke, it was the Phrygians invention: I
and hereupon embroderers in Latine bee called *Phrygiones*. And in the same Asia, king *Attalus* was the first that devised cloth of gold: and thence come such clothes to be called Attalica. In Babylon they used much to weave their cloth of divers colours, and this was a great wearing among them, and cloths so wrought were called Babylonica. To weave cloth of tissue with twisted threeds both in woofe and warpe, and the same of sundrie colours, was the invention of Alexandria, and such clothes and garments wer named Polymita. But Fraunce devised the scutchion, square, or lozenge damaske-worke. *Metellus Scipio*, among otherchallenges and imputations laid against *Capito*, reproched and accused him for this, That his hangings and furniture of his dining-chamber, being Babylonian worke or cloth of Arras, were sold for 800000 sesterces: and such like of late daies stood prince *Nero* in 400 hundred thousand sesterces, *i.* 40 millions. K
The embrodered long robes of *Servius Tullus*, wherewith hee covered and arraied all over the Image of *Fortune*, by him dedicated, remained whole and sound unto the end of *Seianus*. And a wonder it was, that they neither fell from the image, nor were moth-eaten in 560 yeeres. I have my selfe seene the sheepes fleeces upon their backes whiles they be alive, died with purple, with scarlet in grain, and the violet liquor of the fish Murex: by the means of certaine barks of a foot and a halfe long dipped in these colours, and so imprinted and set upon their fleeces: as if riotous wantonnes and superfluitie should force Natures worke, and make wooll to grow of that colour. As for the sheepe it selfe, she is knowne to be kindly enough by these markes, if she be short legged, and well woolled under the bellie; for such as were naked there and pilled, they condemned and held for naught, and those they called Apicæ. In Syria, sheepe have tailes a cubit long, and L
they beare most wooll there. To lib lambs before they be five moneths old, it is thought to be with the soonest, and daungerous.

Chap. xlix.

Of a beast called Musmon.

THere is in Spaine, but especially in the Isle Corsica, a kind of Musmones, not altogether unlike to sheepe, having a shag more like the haire of goats, than a fleece with sheepes wooll. That kind which is engendred betweene them and sheepe, they called in old time Vmbri. This beast hath a most tender head, and therefore in his pasture is to be forced to feed M
with his taile to the sunne. Of all living creatures, those that beare wooll are most fooliſh: for take but one of them by the horne and lead him any whither, all the rest will follow, though otherwise they were affraid to go that way. The longest that they live in those parts, is 9 yeers; howsoever in Æthiopia they come to 13. In which countrey, goates also live 11 yeeres, whereas in

other

A other countries of the world, for the most part, they passe not eight. And both sorts, as well the one as the other, be sped within foure leapings.

Chap. L.

Of Goats, and their breeding.

GOats bring forth foure kids otherwhiles, but that is very seldome. They goe with young five moneths as ewes do. Shee goats waxe barren with fatnesse. When they be come once to be three yeers old, they are not so good to breed: ne yet when they are elder, and namely, being past foure yeeres of age. They begin at the seventh moneth, even whiles they sucke B their dammes. And as well the bucke as the Doe are held the better for breed, if they be nott, and have no hornes. The first time that the shee goats are leaped, they stand not to it: the second leaping speedeth better, and so forward. They chuse willingly to take the bucke in the moneth of November, that they might bring kids in March following, when all shrubs put forth and begin to sprout and bud, for them to brouze. And this is sometime when they be a yeere old, but they never faile at two yeeres: yea and when they be full three, they are not utterly decayed and done, but are good still: for they beare 8 yeeres. Subject they be in cold weather, to cast their young and yeane untimely. The Doe, when she perceiveth her eies dimme and over-cast either with pin and web or catarract, pricketh them with the sharpe point of some bulrush, and so letteth them blood: but the bucke goeth to the brier and doth the like. *Mutianus* reporteth, that C he had occasion upon a time to marke the wit of this creature: It happened, that upon a narrow thin planke that lay for a bridge, that one goat met another comming both from divers parts: now by reason that the place was so narrow that they could not passe by, nor turne about, ne yet retire backwards blindly, considering how long the planke was and so slender withall; moreover, the water that ran underneath ran with a swift streame, and threatned present death if they failed and went besides: *Mutianus* (I say) affirmeth, that he saw one of them to lye flat down, and the other to goe over his backe. As for the male goats, they are held for the best which are most camoise or snout nosed, have long eares, and the same slit in, with great store of shag haire about their shoulders. But the marke to know the kindest females is this, they have two lappets, locks, or plaits as it were of haire, hanging downe along their bodie on either side from their D necke. They have not all of them horns, but some are nott; but in those which are horned, a man may know their age by the number of the knots therein more or lesse: and in very truth, the nott shee goats are more free of milke. *Archelaus* writeth, that they take their breath at the eares, and not at the nostrils: also that they be never cleere of the ague. And this haply is the cause, that they are hotter mouthed, and have a stronger breath than sheepe, and more egre in their rut. Men say moreover, that they see by night as wel as by day: and therfore they that when evening is come, see nothing at all, recover their perfect sight again by eating ordinarily the liver of goats. In Cilicia and about the Syrtes, the people clad themselves with goats haire, for there they shere them as sheepe. Furthermore it is said, that goats toward the sun-setting, cannot in their pasture see directly one another, but by turning taile to taile: as for other houres of the day, they keepe E head to head, and raunge together with the rest of their fellowes. They have all of them a tuft of haire like a beard hanging under their chin, which they call Aruncus. If a man take one of them by this beard and draw it foorth of the flocke, all the rest will stand still gazing thereat, as if they were astonied: and so will they doe if any one of them chaunce to bite of a certaine hearb. Their teeth kill trees. As for an olive tree, if they doe but licke it, they spoile it for ever bearing after: and for this cause they be not killed in sacrifice to *Minerva*.

Chap. LI.

Of Swine, and their natures.

F SWine goe a brimming from the time that the Westerne wind Favonius beginneth to blow, untill the spring Æquinoctiall: and they take the bore when they be eight moneths old: yea and in some places at the fourth moneth of their age, and continue breeding unto the seventh yeere. They farrow commonly twice a yeere: they be with pigge foure moneths. One sow may bring at one farrow twentie pigges, but reare so many she cannot. *Nigidius* saith, that

thoſe pigs which are farrowed ten daies under or ten daies over the ſhorteſt day of the yeer, when G
the ſun entreth into Capricorn, have teeth immediatly. They ſtand lightly to the firſt brimming,
but by reaſon that they are ſubject to caſt their pigges, they had need to bee brimmed a ſecond
time. Howbeit the beſt way to prevent that they do not ſlip their young, is to keep the bore from
them at their firſt grunting and ſeeking after him, nor to let them be brimmed before their ears
hang downe. Bores are not good to brim ſwine after they be three yeers old. Sowes when they be
wearie for age that they cannot ſtand, take the bore lying along. That a ſow ſhould eat her owne
pigs, it is no prodigious wonder. A pig is pure & good for ſacrifice, five daies after it is farrowed;
a lambe, when it hath been yeaned 8 daies; and a calfe, being 30 daies old. But *Cornucanus* ſaith,
That all beaſts for ſacrifice which chew cud, are not pure and right for that purpoſe, untill they
have teeth. Swine having loſt one eye, are not thought to live long after; otherwiſe they may H
continue untill they be fifteen yeers old, yea and ſome to twentie. But they grow to be wood and
raging otherwhiles: and beſides are ſubject to many maladies more, and moſt of all to the ſqui-
nancie, and wen or ſwelling of the kernels in the necke. Will ye know that a ſwine is ſicke or un-
ſound, pluck a briſtle from the back and it will be bloodie at the root: alſo he will carrie his neck
atone ſide as he goeth. A ſow, if ſhee be over-fat, ſoone wanteth milke; and at her firſt farrow
bringeth feweſt pigs. All the kind of them loveth to wallow in dirt and mire. They wrinkle their
taile; wherein this alſo is obſerved, That they be more likely to appeaſe the gods in ſacrifice, that
rather writh & turn their tailes to the right hand, than the left. Swine will be fat and well larded in
ſixtie daies; and the rather, if before you begin to franke them up, they be kept altogither from
meat three daies. Of all other beaſts, they are moſt brutiſh; inſomuch as there goeth a pleaſant I
byword of them, and fitteth them well, *That their life is given them in ſtead of ſalt*. This is known
for a truth, that when certaine theeves had ſtolne and driven away a companie of them, the
ſwineheard having followed them to the water ſide (for by that time were the theeves embarged
with them) cried aloud unto the ſwine, as his manner was: whereupon they knowing his voice,
leaned all to one ſide of the veſſell, turned it over, and ſunke it, tooke the water, and ſo ſwam a-
gaine to land unto their keeper. Moreover, the hogges that uſe to lead and goe before the heard,
are ſo well trained, that they will of themſelves go to the ſwine-market place within the citie, and
from thence home againe to their maſters, without any guide to conduct them. The wild bores
in this kind, have the wit to cover their tracks with mire, and for the nones to runne over mariſh
ground where the prints of their footing will not be ſeene; yea and to be more light in running, K
to void their urine firſt. Sowes alſo are ſplaied as well as camels, but two daies before, they be
kept from meat: then hang they them by the forelegs for to make inciſion into their matrice, and
to take forth their ſtones: and by this means they will ſooner grow to be fat. There is an Art alſo
in cookerie, to make the liver of a ſow, as alſo of a gooſe, more daintie (and it was the deviſe of
M. Apicius) namely, to feed them with drie figges, and when they have eaten till they bee full,
preſently to give them mead or honyed wine to drinke, untill they die with beeing overcharged.
There is not the fleſh of any other living creature, that yeeldeth more ſtore of diſhes to the
maintenance of gluttonie, than this; for fiftie ſundrie ſorts of taſtes it affourdeth, whereas other
have but one apeece. From hence came ſo many edicts and proclamations publiſhed by the L
Cenſors, forbidding and prohibiting to ſerve up at any feaſt or ſupper, the belly and paps of a
ſow, the kernels about the necke, the brizen, the ſtones, the wombe, and the fore-part of the bores
head: and yet for all that, *Publius* the Poët and maker of wanton ſongs, after that he was come
to his freedome, never (by report) had ſupper without an hogges belly with the paps: who alſo
to that diſh gave the name, and called it Summam. Moreover, the fleſh of wild bores came to
be in great requeſt and was much ſet by: in ſuch ſort, as *Cato* the Cenſor in his invective orati-
ons, challenged men for brawne. And yet when they made three kinds of meat of the wild bore,
the loine was alwaies ſerved up in the mids. The firſt Romane that brought to the table a whole
bore at once, was *P. Servilius Rullus*, father of that *Rullus*, who in the time that *Cicero* was Con-
ſull, publiſhed the law Agraria, as touching the diviſion of lands. See how little while agoe it is
ſince theſe ſuperfluities began, which now are taken up ſo ordinarily everie day. And yet the M
thing was noted and recorded in the Annales, as ſtrange and rare; no doubt for this intent, To
repreſſe theſe inordinate enormities. One ſupper then or feaſt was taxed and reprooved therein
at the beginning: but now, two and three bores at a time are ſerved up whole and eaten toge-
ther.

CHAP.

A

Chap. lii.

Of Parkes for wild beaſts.

THe firſt man of the long robe that deviſed parkes as well for theſe bores as other Deere and ſavage beaſts, was *Fulvius Lippinus*, who in the territorie of *Tarquinij*, began to keep and feed wild beaſts for his game. And long it was not but others followed his ſteps, namely, *L. Lucullus* and *Q. Hortenſius*. Sowes of the wild kind bring forth pigges but once a yeere: and the bores in briming time are exceeding fierce and fell: then they fight one with another: they harden their ſides rubbing them againſt the bodies of trees, and all to wallow themſelves in the mire, and coat their backs with durt. But they are not ſo raging then, but the ſowes in their farrowing are much worſe, and lightly it is ſo in all other kind of beaſts. Wild bores are not meet for generation before they be a yeere old. The wild bores of India have two bowing fangs or tuskes of a cubit length, growing out of their mouth, and as many out of their foreheads like calves hornes. The briſtly haire of the wild ſort, is like to braſſe: but of others, blacker. In Arabia ſwine will not live.

B

Chap. liii.

Of beaſts halfe ſavage.

C THere is no creature engendreth ſo ſoone with wild of the kind, as doth the ſwine: and in good ſooth ſuch hogges in old time they called Hybrides, as a man would ſay, halfe wild: inſomuch as this tearme by a tranſlation, hath been attributed to mankind. For ſo was *C. Antonius*, colleague with *Cicero* in the Conſulſhip, nicknamed. And not in ſwine onely, but alſo in all other living creatures, looke where there be any tame and domeſticall, you may find alſo wild and ſavage of the ſame kind; ſeeing that even of wild men there be ſo many ſorts in divers places, as we have before ſaid. As for the goats kind, how many and how ſundrie reſemblances are to be found in them of other beaſts? For among them you ſhall have the roe bucke, the ſhamois, the wild goat called the Eveck, wonderfull ſwift, albeit his head be loden with huge hornes like to ſword ſcabberds: by theſe they hang and poiſe themſelves from rockes, namely, when they mind to leape from one to another, for by ſwinging too and fro they skip and jump the more nimbly, and fetch a jerke out to what place they liſt, as it were forth of an engine. Of this kind, be the Oryges, the onely beaſts (as ſome thinke) of all others, that are ſaid to have their haire growing contrariwiſe and turning toward the head. To theſe belong the Does, and a kind of fallow Deere called Pygargi, as alſo thoſe that are named Strepſicerotes, and many other not farre unlike. As for the former ſort, they come out of the Alpes: theſe laſt rehearſed, are ſent from other parts beyond-ſea.

D

Chap. liiii.

Of Apes and Monkeys.

E ALl the kind of theſe Apes approach neereſt of all beaſts, to the reſemblance of a mans ſhape: but they differ one from another in the taile. Marveilous craftie and ſubtle they be to beguile themſelves: for by report, as they ſee hunters doe before them, they will imitate them in every point, even to beſmeare themſelves with glew and birdlime, and ſhoo their feet within grins and ſnares, and by that meanes are caught. *Mutianus* ſaith, that he hath ſeene Apes play at cheſſe and tables; and that at firſt ſight they could know nuts made of waxe from others. He affirmeth moreover, that when the moone is in the waine, the monkeys and marmoſets (which in this kind have tailes) be ſad and heavie, but the new moone they adore and joy at, which they teſtifie by hopping and dauncing. As for the eclipſe of ſunne or moone, all other four-footed beaſts alſo doe greatly dread and feare. The ſhee Apes of all ſorts are wonderous fond of their little ones: and ſuch as are made tame within-houſe, will carrie them in their armes all about ſo ſoone as they have brought them into the world, keepe a ſhewing of them to every bodie, and they take pleaſure to have them dandled by others, as if thereby they tooke knowledge that folke joyed for their ſafe deliverance: but ſuch a culling and hugging of them

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they keepe, that in the end with very clasping and clipping they kill them many times. Apes that G
be headed and long snouted like dogs, and thereupon called Cynocephali, are of all other most curst, shrewd, & unhappie: like as the Marmozets and Monkies called Sphinges & Satyri, are the gentlest & most familiar. As for those which they call Callitriches, they be clean of another form and shape all over in a manner. They have a beard on their visage, and the fore-part of their taile spreadeth broad. But this creature is said to live in no other climate but in Æthyopia where it breedeth.

Chap. lv.

Of Hares and Connies.

OF Hares also there be many sorts. Vpon the Alpes and such high mountaines, they bee of H
colour white, so long as the snow lieth; and it is verily thought, that all Winter long they live with eating of snow: for surely, when it is thawed and melted, all the yeare after they be browne and reddish as before: and a creature it is otherwise bred in extreame and intollerable cold. Of the Hares kind are they also, which in Spaine they call Connies, which are exceeding fruitfull, and of wonderfull encrease: in such sort, that having devoured all the corne in the field before harvest in the Baleare Islands, they brought thereby a famine upon the people. There is a most daintie dish served up at the table, made of Leverets or Rabbets, either cut out of the dams bellies, or taken from them when they be suckers, without cleansing them at all of the garbage; and such the Latines call Laurices. It is knowne for certaine, the Islanders of Majoricke and Minoricke made meanes to the Emperour *Augustus Cæsar* for a power of souldiours to destroy the I
infinite increase of Connies among them. Ferrets are in great account for chasing and hunting of these Connies. The manner is to put them into their earths, which within the ground have many waies and holes like mines; and thereupon these creatures are called *Cuniculi*: and when they are within, they so course the poore Connies from out of their earth, that they are soon taken above ground at the mouth of their holes. *Archelaus* writeth, That looke how many receptacles and waies of passage, the Hare hath for his dung and excrements, so many yeares old he is just. And verily, some have more than others. The same writer is of opinion, that every Hare is both male and female, and that any of them can breed without the Bucke. Certes herein Nature hath shewed her bountie and goodnesse, in that she hath given this creature (so good to eat, and so harmelesse otherwise) the gift of fertilitie and fruitfull wombe. The Hare, naturally exposed to K
be a prey and game for all men, is the onely creature, unlesse it be the Connie againe called Dasipus, which after it be once with young, conceiveth againe upon it: insomuch, as at one time she hath some Leverets sucking of her, others in her bellie; and those not of the same forwardnesse, for some of them are covered with haire, others are naked without any downe: and there be again of them, that as yet are not shapen at all, but without all forme. Moreover, men have assaied to make cloth of Hares and Connies haire: but in the hand they are not so soft, as is the furre upon the skin or case: neither will they last, by reason that the haire is short, and will soone shed.

Chap. lvi.

Of beasts halfe tame. L

AS for Hares, seldome be they made tame, and to come to hand: and yet justly they cannot be called simply wild. For many other such creatures there be besides, that neither are savage, no yet tame and gentle, but of a middle nature betweene both. As namely among flying foules in the aire, the Swallow: likewise the Bee: and among fishes, the Dolphin in the sea.

Chap. lvii.

Of Mice and Rats, Dor-mice, Reere-mice, and Bats.

IN the ranke of those that be neither tame nor wild, many have ranged the Mice and Rats that M
haunt our houses. A creature this is of no small reckoning for presaging somewhat to a state, by some strange and prodigious tokens. By gnawing the silver shields and bucklers at Lavinium, they portended and fore-shewed the Marsian warre. Vnto *Carbo* the lord Generall, by eating of his hose-garters and shoe-strings at Clusium, they prognosticated his death. Many sorts there

A there be of them in the countrey of Cyrene: ſome with a broad flat forehead, others with a ſharp pointed: and there be of them ſeene to have ſharpe prickles, like to urchins and hedgehogs. *Theophraſtus* reporteth, That theſe vermine having diſpeopled the Iſland Gyaros and driven away the inhabitants, gnawed & devoured every thing they could meet withall, even to their very yron. And ſurely it ſeemeth that it is their nature ſo to doe: for even among the Chalybes, they ſerve them ſo in eating their yron and ſteele within their very forges. Yea, and in gold mines they play the like part: and therefore when they be caught, their bellies be ript by the pioners in the mine, where they evermore find their ſtollen good againe. See what a delight this creature taketh in theeving. We read in the Chronicles, that whiles *Annibal* lay in ſiege before Caſilinum, a rat was ſold within the towne for two hundred Seſterces: the man who bought it at that price, lived; but the partie who ſold it for greedineſſe of mony, died for hunger. By the learning of the Soothſaiers, obſerved it is, that if there be ſtore of white ones bred, it is a good ſigne, and preſageth proſperitie. And in truth our ſtories are full of the like examples, and namely, that if rats be heard to crie or ſqueake in the time of ceremoniall taking the Auſpices and ſignes of birds, all is marred, and that buſineſſe cleane daſht. *Nigidius* ſaith, that rats lie cloſe hidden all Winter like as Dor-mice. By the edicts of the Cenſors, and principally by an act of *M. Scaurus* in his Conſulſhip, provided it was, and ſtreight order taken, that no Rats, Mice, or Dor-mice ſhould be ſerved up to the table at their great ſuppers and feaſts: like as all ſhell fiſh or foule fet out of forraine countries farre remote. Counted are Dor-mice betweene tame and wild: and verily he that firſt deviſed to keepe wild Bores in parkes, found the meanes alſo to nouriſh and feed theſe creatures in great tunnes, pipes, and driefats. In the experiment and triall whereof, this hath beene found and obſerved, That willingly theſe little creatures will not ſort together, unleſſe they were countreymen (as it were) and bred in one and the ſame forreſt: and if it chaunce that there bee entermingled among them any ſtrangers, namely, ſuch as had either ſome river or mountain between the places where they were bred, they kill one another with fighting. The young Dor-mice are exceeding kind and loving to their ſires that begat them: for when they bee old and feeble, full tenderly they will feed and nouriſh them. They renue their age every yeare, by ſleeping all Winter: for they lie by it cloſe, ſnug all the while, and are not to bee ſeene. But come the Summer once, they bee young and freſh againe. And thus the field Mice likewiſe take their reſt, and doe the ſame.

B C D

Chap. lviii.

What creatures live not but in certaine places.

A Wonderfull thing it is to ſee, that Nature hath not onely brought forth divers creatures in ſundrie countries: but alſo in one region under the ſame climate, hath denied ſome of them to live in every quarter thereof. And namely in the forreſt of Mœſia within Italie, theſe Dor-mice are found but onely in one part thereof. And in Lycia the wild goats, roebucks, and does, never paſſe the mountaine that confine upon the Syrians: no more than the wild Aſſes tranſmount that hill which devideth Cappadocia from Cilicia. Within Helleſpont the Stags and Hinds never goe forth and enter into the marches of other countries: and thoſe that bee about Arginuſſa paſſe not the mountaine Elatus: which may be knowne by this, that all upon that hill have their eares marked and ſlit. In the Iſland Poroſelenum, the Weazels will not croſſe over the high way. And about Lebadia in Bœotia, thoſe moldwarpes or wants that are brought thither from other parts, will not abide the very ſoile, but flie from it; which neere by, in Orchomenus undermine & hollow all their corn fields: and ſuch ſtore there is of them, that I have ſeen all the hangings, carpets, counterpoints, and coverlets of chambers, made of their skins. See how men for no religion and feare of the gods, will bee kept from taking their pleaſures and making their delights of theſe creatures, otherwiſe prodigious and portending things to come. The ſtrange Hares that be brought into Ithaca, will not live there, but ſeeking to get away, are found dead about the very bankes of the ſea ſide. In the Iſland Ebuſus there bee no Connies at all: and yet in Spaine and the Baleare Iſlands there are ſo many, that they peſter the whole countrie. The Frogs were ever in Cyrenæ naturally mute, and would not crie: but brought there were thither out of the continent, ſuch as would crie in the water: and that whole kind ſtill remaineth vocall. In the Iſland Seriphos you ſhall not yet heare a Frog to crie: let the ſame bee carried foorth to

E F

other places, they will keepe a singing as well as the rest. And (by report) the like happeneth in a lake of Thessalie named Sicendus. In Italie, the hardie shrewes are venomous in their biting: but passe over the Apennine once, there are no more such to be found. In what countrey soever they be, let them goe over the tract of a cart wheele, they die presently. In Olympus, a mountaine of Macedonie, there are no Wolves, ne yet in the Island Candie. And there verily are to bee found no Foxes nor Beares, and in one word, no hurtfull and noisome beast, unlesse it bee a kind of spider called Phalangium: whereof wee will speake more in due time and place. And that which is more wonderfull, in the same Island there are no Stags and Hinds, save onely in the region and quarter of the Cydoniates. No wild Bores likewise, nor the foule called the Godwit or Attagene, ne yet Vrchins. To conclude, in Affricke yee shall find no wild Bores, no Stags and Hinds, no Roe-buckes and Does, ne yet Beares.

Chap. lix.

What creatures are hurtfull to strangers.

NOw, some living creatures there be that doe no harme at all to the inhabitants of the same countries, but kill all strangers. And namely, certaine Serpents in Tirinthe, which are supposed to breed of themselves out of the very earth. Semblably, in Syria there be Snakes, and especially along the bankes of Euphrates, that will not touch the Syrians lying along asleep: nay, if a man that leaneth upon them bee stung or bitten by them, hee shall find no hurt or mischeefe thereby. But to men of all other nations whatsoever, they are most spightfully bent: them they will with great greedinesse eagerly assaile and flie upon, yea, and kill them with extreame paine and anguish. And therefore it is, that the Syrians destroy them not. Contrariwise, *Aristotle* reporteth, That in Latmos (a mountaine of Caria) the Scorpions will doe no harme to straungers, marrie the inhabitants of the same countrey they will sting to death. Now let us proceed to other living creatures besides those of the land, and discourse of their sundrie sorts and kinds.

THE NINTH BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

Chap. i.

The nature of water creatures.

IHave thus shewed the nature of those beasts which live upon the land, and therein have some societie and fellowship with men. And considering, that of all others besides in the world, they that flie bee the least, wee will first treat of those fish that keepe in the sea: not forgetting those also, either in running fresh rivers or in standing lakes.

Chap. ii.

What the reason is why the sea should breed the greatest living creatures.

THe waters bring forth more store of living creatures, and the same greater than the land. The cause whereof is evident, even the excessive abundance of moisture. As for the foules and birds, who live hanging (as it were) and hovering in the aire, their case is otherwise. Now in

A in the sea, being so wide, so large and open, readie to receive from heaven above the genitall seeds and causes of generation; being so soft & pliable, so proper & fit to yeeld nourishment and encrease; assisted also by Nature, which is never idle, but alwaies framing one new creature or other: no marvell it is if there are found so many strange and monstrous things as there be. For the seeds and universall elements of the world are so interlaced sundrie waies, and mingled one within another, partly by the blowing of the winds, and partly with the rolling and agation of the waves, insomuch as it may truly bee said, according to the vulgar opinion, that whatsoever is engendred and bred in any part of the world besides, is to be found in the sea: and many more things in it, which no where els are to be seene. For there shall yee meet with fishes, resembling not onely the forme and shape of land creatures living, but also the figure and fashion of many things without
B life: there may one see bunches of grapes, swords, and sawes, represented; yea, and also cowcombers, which for colour, smell, and tast, resembleth those growing upon the earth. And therefore we need the lesse to wonder, if in so little shell fishes as are cockles, there be somewhat standing out like horse-heads.

Chap. iii.

Of the monstrous fishes in the Indian sea.

C THe Indian sea breedeth the most and the biggest fishes that are: among which, the Whales and Whirlepooles called Balænæ, take up in length as much as foure acres or arpens of land: likewise the Pristes are two hundred cubites long: and no marvell, since Locusts are there to bee found of foure cubites in length: and yeeles within the river Ganges of thirtie foot in length. But these monstrous fishes in the sea, are most to be seene about the middest of Summer, and when the daies be at the longest with us. For then by the meanes of whirlewinds, storms, winds, and blustering tempests which come with violence downe from the mountaines and promontories, the seas are troubled from the very bottome, and turned upside downe: whereupon the surging billowes thereof, raise these monsters out of the deepe, and roll them up to be seene. For in that manner so great a multitude of Tunnies were discovered and arose, that the whole armada of king *Alexander* the great, seeing them comming like to an armie of enemies in order of battell, was driven to range & make head against them, close united together: for otherwise, if they
D had failed scattering asunder, there had been no way to escape, but overturned they had ben; with such a force and sway came these Tunnies in a skull upon them. And verily, no voice, crie, hollaing and houting, no nor any blowes and raps affrighteth this kind of fish: onely at some cracke or crashing noise they be terrified: and never are they troubled and disquieted so much as when they perceive some huge thing readie to fall upon them.

In the red sea there lieth a great demie Iland named Cadara, so farre out into the sea, that it maketh a huge gulfe under the wind, which king *Ptolomæus* was twelve daies and twelve nights a rowing through: for as much as there is no wind at all useth to blow there. In this creeke so close and quiet, there be fish and Whales grow to that bigneſſe, that for their very weight and unweldinesse of their bodie, they are not able to stirre. The Admirals and other captaines of the fleet
E of the foresaid *Alexander* the great, made report, That the Gedrosi, a people dwelling upon the river Arbis, use to make of such fishes chawes, the dores of their houses; also that they lay their bones overthwart from one side of the house to another, in steed of beames, joists, and rafters to beare up their floores and roufes: and that some of them were found to be fortie cubites long.

In those parts there be found in the sea certaine strange beasts like sheepe, which goe foorth to land, feed upon the roots of plants and hearbes, and then returne againe into the sea. Others also which are headed like Horses, Asses, and Buls: and those many times eat downe the standing corne upon the ground.

Chap. iiii.

F

Which be the greatest fishes in any coast of the Ocean sea.

THe biggest and most monstrous creature in the Indish Ocean, are the Whales called Pristis and Balæna. In the French Ocean there is discovered a mightie fish called Physeter, [*i.* a Whirlepoole] rising up aloft out of the sea in manner of a columne or pillar, higher than the

the very ſailes of the ſhips: and then he ſpouteth and caſteth forth a mightie deale of water, as it were out of a conduit, ynough to drowne and ſinke a ſhip. In the Ocean of Gades, betweene Portugall and Andaluſia, there is a monſtrous fiſh to be ſeene like a mightie great tree, ſpreading abroad with ſo mightie armes, that in regard thereof onely, it is thought verily it never entred into the ſtreights or narrow ſea there by of Gibraltar. There ſhew themſelves otherwhiles fiſhes made like two great wheeles, and therupon ſo they be called: framed diſtinctly with foure armes, repreſenting as many ſpokes: and with their eies they ſeeme to cover cloſe the naves from one ſide to the other, wherein the ſaid ſpokes are faſtened. G

Chap. v.

Of Tritons, Nereides, and ſea-Elephants, and their formes. H

IN the time that *Tiberius* was Emperour, there came unto him an Embaſſador from *Vlyſſipon*, ſent of purpoſe to make relation, That upon their ſea coaſt there was diſcovered within a certain hole, a certain ſea goblin, called Triton, ſounding a ſhell like a Trumpet or Cornet: & that he was in forme and ſhape like thoſe that are commonly painted for Tritons. And as for the Meremaids called Nereides, it is no fabulous tale that goeth of them: for looke how painters draw them, ſo they are indeed: only their bodie is rough and skaled all over, even in thoſe parts wherin they reſemble a woman. For ſuch a Meremaid was ſeene and beheld plainely upon the ſame coaſt neere to the ſhore: and the inhabitants dwelling neer, heard it a farre off when it was a dying, to make pitteous mone, crying and chattering very heavily. Moreover, a lieutenant or governour under *Auguſtus Cæſar* in Gaule, advertiſed him by his letters, That many of theſe Nereides or Meremaids were ſeene caſt upon the ſands, and lying dead. I am able to bring forth for mine authors divers knights of Rome, right worſhipfull perſons and of good credite, who teſtifie that in the coaſt of the Spaniſh Ocean neere unto Gades, they have ſeene a Mere-man, in every reſpect reſembling a man as perfectly in all parts of the bodie as might bee. And they report moreover, that in the night ſeaſon he would come out of the ſea abourd their ſhips: but look upon what part ſoever he ſetled, he waied the ſame downe, and if he reſted and continued there any long time, he would ſinke it cleane. In the daies of *Tiberius* the Emperour, in a certain Iſland upon the coaſt of the province of Lions, the ſea after an eb, left upon the bare ſands three hundred ſea-monſters and above, at one flote together, of a wonderfull varietie and bigneſſe, differing aſunder. And there were no fewer found upon the coaſt of the Santones. And among the reſt there were ſea-Elephants and Rams, with teeth ſtanding out; and hornes alſo, like to thoſe of the land, but that they were white like as the foreſaid teeth: over and beſides, many Mere-maids. *Turanius* hath reported, That a monſter was driven and caſt upon the coaſt of Gades, betweene the two hindmoſt finnes whereof in the taile, were ſixteene cubites: it had 122 teeth, whereof the biggeſt were a ſpan or nine inches in meaſure, and the leaſt halfe a foot. *M. Scaurus* among other ſtrange and wonderfull ſights that he exhibited to the people of Rome, to doe them pleaſure in his Ædileſhip, ſhewed openly the bones of that ſea-monſter, before which ladie *Andromeda* (by report) was caſt to be devoured: which were brought to Rome from Ioppe, a towne in Iudæa: and they caried in length fortie foot: deeper were the ribs than any Indian Elephant is high, and the ridge-bone a foot and halfe thicke. I K L

Chap. vi.

Of the Balænes and Orcæ.

THeſe monſtrous Whales named Balænæ, otherwhiles come into our ſeas alſo. They ſay that in the coaſt of the Spaniſh Ocean by Gades, they are not ſeen before midwinter when the daies be ſhorteſt: for at their ſet times they lie cloſe in a certaine calme deepe and large creeke, which they chuſe to caſt their ſpawne in, and there delight above all places to breed. The Orcæ, other monſtrous fiſhes, know this full well, and deadly enemies they bee unto the foreſaid Whales. And verily, if I ſhould pourtrait them, I can reſemble them to nothing els but a mightie maſſe and lumpe of fleſh without all faſhion, armed with moſt terrible, ſharpe, and cutting teeth. Well, theſe being ware that the Whales are there, breake into this ſecret by-creeke out of the way, ſeeke them out, and if they meet either with the young ones, or the dammes that have M

newly

A newly ſpawned, or yet great with ſpawne, they all to cut & hacke them with their trenchant teeth; yea, they run againſt them as it were a foiſt or ſhip of warre armed with ſharpe braſen pikes in the beake-head. But contrariwiſe, the Balænes or Whales aforeſaid, that cannot wind and turne aſide for defence, and much leſſe make head and reſiſt, ſo unweldie as they bee by reaſon of their owne weightie and heavie bodie, (and as then either big bellied, or elſe weakened lately with the paines of travell and calving their young ones) have no other meanes of helpe and ſuccour but to ſhoot into the deepe, and gaine ſea-roume to defend themſelves from the enemie. On the other ſide, the Orcæ labour (to cut them ſhort of their purpoſe) to lie betweene them and home in their very way, and otherwhiles kill them unawares in the ſtreights, or drive them upon the ſhelves and ſhallowes, or elſe force them againſt the very rockes, and ſo bruſe them.
B When theſe combates and fights are ſeene, the ſea ſeemeth as if it were angry with it ſelfe: for albeit no winds are up, but all calme in that creeke and gulfe, yet ye ſhall have waves in that place where they encounter (with the blaſts of their breath, and the blowes given by the aſſailant) ſo great, as no tempeſtuous whirlewinds whatſoever are not able to raiſe. In the haven of Oſtia likewiſe there was diſcovered one of theſe Orcæs, and the ſame aſſailed by *Claudius* the Emperour. It chaunced to come as he was making the ſaid harbour or pere, drawne and trained thither with the ſweetneſſe of certaine beaſts hides that were brought out of Gaule, and were caſt away and periſhed by the way. Of them for certaine daies ſhee had fed, and ſtill following them, with the weight of her heavie bodie had made a furrow and channel (as it were) with her bellie in the bottome among the ſhelves: and by reaſon of the flowing of the ſea ſhee was ſo inveſted and com-
C paſſed in with the ſands, that by no means poſſible ſhe could turne about: but ſtill while ſhe goeth after theſe hides whereof ſhe fed, ſhe was by the billows of the ſea caſt aflote upon the ſhore, ſo as her backe was to be ſeene a great deale above the water, much like to the bottome or keele of a ſhip turned upſide downe. Then the Emperour commaunded to draw great nets and cords with many folds along the mouth of the haven on every ſide behind the fiſh, himſelfe accompanied with certaine Pretorian cohorts, for to ſhew a pleaſant ſight unto the people of Rome, came againſt this monſtrous fiſh, and out of many hoies and barkes the ſouldiours launced darts and javelines thicke. And one of them I ſaw my ſelfe ſunke downe right with the abundance of water that this monſtrous fiſh ſpouted and filled it withall. The Whales called Balenæ have a certaine mouth or great hole in their forehead, and therefore as they ſwim aflote aloft on the water, they
D ſend up on high (as it were) with a mightie ſtrong breath a great quantitie of water when they liſt, like ſtormes of raine.

Chap. VII.

Whether fiſh doe breath and ſleepe, or no.

ALl writers are fully reſolved in this, That the Whales aboveſaid, as well the Balænæ as the Orcæ, and ſome few other fiſhes bred and nouriſhed in the ſea, which among other inward bowels have lights, doe breath. For otherwiſe it were not poſſible, that either they or any other beaſt, without lights or lungs ſhould blow. And they that be of this opinion, ſuppoſe like-
E wiſe, that no fiſhes having guils, do draw in and deliver their wind againe too and fro: nor many other kinds beſides, although they want the foreſaid guils. Among others, I ſee that *Ariſtotle* was of that mind, and by many profound and learned reaſons perſuaded and induced many more to hold the ſame. For mine owne part, if I ſhould ſpeake frankely what I thinke, I profeſſe that I am not of their judgement. For why? Nature if ſhe be ſo diſpoſed, may give in ſteed of lights ſome other organs and inſtruments of breath: to this creature one, to that another: like as many other creatures have another kind of moiſt humor in lieu of bloud. And who would marvell, that this vitall ſpirit ſhould pierce within the waters, conſidering that hee ſeeth evidently how it riſeth againe and is delivered from thence: alſo how the aire entreth even into the earth, which is the groſſeſt and hardeſt element of al others? As we may perceive by this good argument, That ſome
F creatures, which albeit they be alwaies covered within the ground, yet live and breath nevertheleſſe, and namely, the Wants or Mold-warpes. Moreover, I have divers pregnant and effectuall reaſons inducing me to beleeve, that all water-creatures doe breath each one after their maner, as Nature hath ordained. Firſt and principally I have obſerved oftentimes by experience, That fiſhes evidently breath and pant for wind (after a ſort) in the great heat of Summer: as alſo that

they

they yawne and gape when the weather is calme and the sea still. And they themselves also who G
hold the contrarie, confesse plainly, That fishes doe sleepe. And if that be true, How, I pray you, can they sleepe if they take not their wind? Moreover, whence come those bubbles which continually are breathed foorth from under the water? And what shall wee say to those shell-fishes which waxe and decay in substance of bodie, according to the effect of the moones encrease or decrease? But above all, fishes have hearing and smelling, and no doubt both these senses are performed and maintained by the benefit and matter of the aire: for what is smell and sent, but the verie aire, either infected with a bad, or perfumed with a good savour? Howbeit I leave everie man free to his owne opinion, as touching these points. But to returne againe to our purpose: this is certein, that neither the Whales called Balænæ, nor the Dolphins, have any guills: and yet doe both these fishes breath at certaine pipes and conduits, as it were reaching downe H
into their lights: from the forehead, in the Balænes; and in the Dolphins, from the backe. Furthermore, the Sea-calves or Seales, which the Latines call *Phocæ*, doe both breath and sleepe upon the drie land. So doe the sea Tortoises also, whereof we will write more anon.

Chap. viii.

Of Dolphins, being the swiftest Fishes.

THe swiftest of all other living creatures whatsoever, and not of sea-fish only, is the Dolphin; quicker than the flying foule, swifter than the arrow shot out of a bow. And but that this fish is mouthed farre beneath his snout, and in manner toward the mids of his belly, there I
were not a fish could escape from him, so light and nimble he is. But Nature in great providence fore-seeing so much, hath given these fishes some let and hinderance, for unlesse they turned upright much upon their backe, catch they can no other fish: and even therein appeareth most of all their wonderfull swiftnesse and agilitie. For when the Dolphins are driven for verie hunger to course and pursue other fishes downe into the bottome of the sea, and thereby are forced a long while to hold their breath, for to take their wind againe, they launce themselves aloft from under the water as if they were shot out of a bow; and with such a force they spring up againe, that many times they mount over the verie sailes and mastes of ships. This is to be noted in them, that for the most part they sort themselves by couples like man & wife. They are with yong nine moneths, and in the tenth bring forth their little ones, and lightly in summer time; and otherwhiles K
they have two little dolphins at once. They suckle them at their teats, like as the Whales or the Balænes doe: yea and so long as their little ones are so yong that they be feeble, they carry them too and fro about them: nay when they are growne to be good bigge ones, yet they beare them companie still a long time, so kind and loving be they to their young. Young Dolphins come very speedily to their growth, for in ten yeeres they are thought to have their full bignesse: but they live thirtie yeeres, as hath been knowne by the experience and triall in many of them, that had their taile cut for a marke when they were young, and let go again. They lie close everie yeere for the space of thirtie daies, about the rising of the Dog-starre; but it is straunge how they be hidden, for no man knoweth how: and in verie deed a wonder it were, if they could not breath under the water. Their manner is, to breake forth of the sea and come aland, and why they should L
so doe, it is not known: for presently assoon as they touch the dry ground, they die: and so much the sooner, for that their pipe or conduit above-said, incontinently closeth up and is stopped. Their tongue stirreth within their heads, contrarie to the nature of all other creatures living in the waters: the same is short and broad fashioned like unto that of a swine. Their voice resembleth the pittifull groning of a man: they are saddle-backed, and their snout is camoise and flat, turning up. And this is the cause that all of them (after a wonderfull sort) know the name *Simo*, and take great pleasure that men should so call them. The Dolphin is a creature that carrieth a loving affection not only unto man, but also to musicke: delighted he is with harmonie in song, but especially with the sound of the water instrument, or such kind of pipes. Of a man he is nothing affraid, neither avoideth from him as a stranger; but of himselfe meeteth their ships, plaieth and disporteth himselfe, and fetcheth a thousand friskes and gambols before them. Hee will swimme along by the marriners, as it were for a wager, who should make way most speedily, and alwaies out-goeth them, saile they with never so good a fore-wind. M

In the daies of *Augustus Cæsar* the Emperour, there was a Dolphin entred the gulfe or poole

Lucrinus,

A Lucrinus, which loved wonderous well a certain boy, a poore mans ſonne: who uſing to go every day to ſchoole from Baianum to Puteoli, was woont alſo about noone-tide to ſtay at the water ſide, and to call unto the Dolphin, *Simo*, *Simo*, and many times would give him fragments of bread, which of purpoſe hee ever brought with him, and by this meane allured the Dolphin to come ordinarily unto him at his call. [I would make ſcruple and baſh to inſert this tale in my ſtorie and to tell it out, but that *Mecænas Fabianus*, *Flavius Alſius*, and many others have ſet it downe for a truth in their Chronicles.] Well, in proceſſe of time, at what houre ſoever of the day, this boy lured for him and called *Simo*, were the Dolphin never ſo cloſe hidden in any ſecret and blind corner, out he would and come abroad, yea and skud amaine to this lad: and taking bread and other victuals at his hand, would gently offer him his backe to mount upon, and then
B downe went the ſharpe pointed prickes of his finnes, which he would put up as it were within a ſheath for fear of hurting the boy. Thus when he had him once on his back, he would carrie him over the broad arme of the ſea as farre as Puteoli to ſchoole; and in like manner convey him backe againe home: and thus he continued for many yeeres together, ſo long as the child lived. But when the boy was falne ſicke and dead, yet the Dolphin gave not over his haunt, but uſually came to the woonted place, & miſſing the lad, ſeemed to be heavie and mourne again, untillſ for verie griefe and ſorrow (as it is doubtles to be preſumed) he alſo was found dead upon the ſhore.

Another Dolphin there was not many yeeres ſince upon the coaſt of Affricke, neere to the cittie Hippo, called alſo Diarrhytus, which in like manner would take meat at a mans hand, ſuffer himſelfe gently to be handled, play with them that ſwom and bathed in the ſea, and carrie on
C his backe whoſoever would get upon it. Now it fell out ſo, that *Flavianus* the Proconſull or lieutenant Generall in Affricke under the Romanes, perfumed and beſmeared this Dolphin upon a time with a ſweet ointment: but the fiſh (as it ſhould ſeem) ſmelling this new and ſtrange ſmell, fell to be drowſie and ſleepie, and hulled too and fro with the waves, as if it had beene halfe dead: and as though ſome injurie had been offered unto him, went his way and kept alouſe, and would not converſe any more for certain moneths with men, as before-time. Howbeit in the end hee came again to Hippo, to the great wonder and aſtoniſhment of all that ſaw him. But the wrongs that ſome great perſons and lords did unto the cittizens of Hippo, ſuch I meane as uſed to come for to ſee this ſight: and namely, the hard meaſure offered to thoſe townſmen, who to their great coſt gave them entertainment, cauſed the men of Hippo to kill the poore Dolphin.

D The like is reported in the citie Iaſſos, long before this time: for there was ſeene a Dolphin many a day to affect a certaine boy, ſo as he would come unto him whereſoever he chaunced to eſpy him. But whiles at one time above the reſt he followed egerly after the lad going toward the towne, hee ſhot himſelfe upon the drie ſands before he was aware, and died forthwith. In regard hereof, *Alexander* the Great ordained that the ſaid young boy ſhould afterward be the chiefe prieſt and ſacrificer to Neptune in Babylon: collecting by the ſingular fancie that this Dolphin caſt unto him, That it was a great ſigne of the ſpeciall love of that god of the ſea unto him, and that he would be good and gracious to men for his ſake.

Egeſidemus writeth, that in the ſame Iaſſus there was another boy named *Hermias*, who having uſed likewiſe to ride upon a Dolphin over the ſea, chaunced at the laſt in a ſodaine ſtorme
E to be over-whelmed with waves as hee ſate upon his backe, and ſo died, and was brought backe dead by the Dolphin: who confeſſing as it were that hee was the cauſe of his death, would never retire againe into the ſea, but launced himſelfe upon the ſands, and there died on the drie land.

The ſemblable happened at Naupactum, by the report of *Theophraſtus*. But there is no end of examples in this kind: for the Amphilochians and Tarentines teſtifie as much, as touching dolphins that have ben enamoured of little boies: which induceth me the rather to beleeve the tale that goeth of *Arion*. This *Arion* being a notable muſitian and plaier of the harpe, chaunced to fall into the hands of certain mariners in the ſhip wherein he was, who ſuppoſing that he had good ſtore of money about him, which he had gotten with his inſtrument, were in hand to kill him and caſt him over-bourd for the ſaid money, and ſo to intercept all his gaines: he, ſeeing
F himſelfe at their devotion and mercie, beſought them in the beſt mannet that he could deviſe, to ſuffer him yet before he died, to play one fit of mirth with his harpe; which they graunted: (at his muſicke and ſound of harpe, a number of dolphins came flocking about him:) which done, they turned him over ſhip-bourd into the ſea; where one of the dolphins tooke him upon his backe, and carried him ſafe to the bay of Tænarus.

To

To conclude and knit up this matter: In Languedoc within the province of Narbon, and in G
the territorie of Næmausium, there is a ſtanding poole or dead water called Laterra, wherein men and Dolphins together, uſe to fiſh: for at one certain time of the yeere, an infinite number of fiſhes called Mullets, taking the vantage of the tide when the water doth ebbe, at certain narrow weares and paſſages with great force breake foorth of the ſaid poole into the ſea: and by reaſon of that violence, no nets can bee ſet and pitched againſt them ſtrong enough to abide and beare their huge weight, and the ſtreame of the water together, if ſo be men were not cunning and craftie to wait and eſpie their time to lay for them, and to entrap them. In like manner the Mullets for their part, immediatly make ſpeed to recover the deepe, which they doe very ſoone by reaſon that the channell is neare at hand: and their onely haſt is for this, to eſcape and paſſe that narrow place which affourdeth opportunitie to the fiſhers to ſtretch out and ſpread their H
nets. The fiſher-men being ware thereof, and all the people beſides (for the multitude knowing when fiſhing time is come, run thither, and the rather for to ſee the pleaſant ſport) crie as lowd as ever they can to the Dolphins for aid, and call *Simo*, *Simo*, to help to make an end of this their game and paſtime of fiſhing. The Dolphins ſoon get the eare of their crie, and know what they would have; and the better, if the North-winds blow and carrie the ſound unto them: for if it be a Southerne wind, it is later ere the voice bee heard, becauſe it is againſt them. Howbeit, be the wind in what corner ſoever, the Dolphins reſort thither flock-meale, ſooner than a man would thinke, for to aſſiſt them in their fiſhing. And a wondrous pleaſant ſight it is to behold the ſquadrons as it were of thoſe Dolphins, how quickly they take their places and be arraunged in battaile array even againſt the verie mouth of the ſaid poole, where the Mullets uſe to ſhoot into I
the ſea: to ſee (I ſay) how from the ſea, they oppoſe themſelves and fight againſt them; & drive the Mullets (once affrighted and skared) from the deep, upon the ſhelves. Then come the fiſhers and beſet them with net and toile, which they beare up and fortifie with ſtrong forkes: howbeit for all that, the Mullets are ſo quicke and nimble, that a number of them whip over, get away, and eſcape the nets. But the Dolphins then are readie to receive them: who contenting themſelves for the preſent to kill only, make foule worke and havocke among them; and put off the time of preying and feeding upon, untill they have ended the battaile and atchieved the victorie. And
(S) now the skirmiſh is hote, for the Dolphins perceiving alſo the men at worke, are the more egre and courageous in fight, taking pleaſure to bee encloſed within the nets, and ſo moſt valiantly charge upon the Mullets: but for feare leaſt the ſame ſhould give occaſion unto the enemies and K
provoke them to retire and flie backe; betweene the boats, the nets, and the men there ſwimming, they glide by ſo gently and eaſily, that it cannot be ſeene where they gat out. And albeit they take great delight in leaping, and have the caſt of it, yet none aſſaieth to get forth, but where the nets lie under them: but no ſooner are they out, but preſently a man ſhall ſee brave paſtime betweene them, as they ſcuffle and skirmiſh as it were under the rampier. And ſo the conflict being ended and all the fiſhing ſport done, the Dolphins fall to ſpoile and eat thoſe which they killed in the firſt ſhocke and encounter. But after this ſervice perfourmed, the Dolphins retire not preſently into the deepe againe, from whence they were called, but ſtay untill the morrow, as if they knew verie well that they had ſo carried themſelves, as that they deſerved a better reward than one daies refection and victuals: and therefore contented they are not and ſatisfied, L
unleſſe to their fiſh they have ſome ſops and crummes of bread given them ſoaked in wine, and that their bellies full. *Mutianus* maketh mention of the ſemblable manner of fiſhing, in the gulfe of Iaſſos: but herein is the difference, for that the Dolphins come of their owne accord without calling, take their part of the bootie at the fiſhers hands: and every boat hath a Dolphin attending upon it as a companion, although it be in the night ſeaſon and at torch light.

Over and beſides, the Dolphins have a kind of common-wealth and publick ſocietie among themſelves: for it chaunced upon a time, that a king of Caria had taken a Dolphin, and kept him faſt as a priſoner within the harbor: whereupon a mightie multitude of other Dolphins reſorted thither, and by certaine ſigns of ſorrow and mourning that they made, evident to be perceived and underſtood, ſeemed to crave pardon and mercie for the priſoner: and never gave over M
untill the king had given commaundement that he ſhould be enlarged and let go. Alſo the little ones are evermore accompanied with ſome one of the bigger ſort, as a guide to guard and keep him. To conclude, they have been ſeen to carrie one of their fellowes when he is dead, into ſome place of ſecuritie, that he ſhould not be devoured and torne of other ſea-monſters.

CHAP.

A

Chap. ix.

Of Porpoiſes.

THe Porpuiſſes, which the Latines call *Turſiones*, are made like the Dolphins: howbeit they differ, in that they have a more ſad and heavie countenance: for they are nothing ſo gamefome, playfull, and wanton, as be the Dolphins: but eſpecially they are ſnouted like dogges when they ſnarle, grin, and are readie to doe a ſhrewd turne.

B

Chap. x.

Of ſea Tortoiſes, and how they are taken.

THere be found Tortoiſes in the Indian ſea ſo great, that one only ſhell of them is ſufficient for the rouſe of a dwelling houſe. And among the Iſlands principally in the red ſea, they uſe Tortoiſe ſhells ordinarily for boats and wherries upon the water.

Many waies the fiſher-men have to catch them; but eſpecially in this manner: They uſe in the mornings when the weather is calme and ſtill, to flote aloft upon the water, with their backs to be ſeene all over: and then they take ſuch pleaſure in breathing freely and at libertie, that they forget themſelves altogither: inſomuch as their ſhell in this time is ſo hardened and baked with
C the ſunne, that when they would they cannot dive and ſinke under the water againe, but are forced againſt their wills to flote above, and by that meanes are expoſed as a prey unto the fiſhermen. Some ſay, that they goe forth in the night to land for to feed, where, with eating greedily, they be wearie; ſo that in the morning, when they are returned againe, they fall ſoone aſleepe above the water, and keepe ſuch a ſnorting and routing in their ſleepe, that they bewray where they be, and ſo are eaſily taken: and yet there muſt be three men about every one of them: and when they have ſwom unto the Tortoiſe, two of them turne him upon his backe, the third caſts a cord or halter about him, as he lyeth with his belly upward, and then is he haled by many more togither, to the land. In the Phœnician ſea, they make no great adoe to take them; for why, at a certaine time of the yeere they reſort of themſelves by great multitudes in ſculls up into the ri-
D verEleutherius.

The Tortoiſe hath no teeth, but the ſides and brimmes of his neb or becke, are ſharpe and keene: whereof the upper part or chaw ſhutteth cloſe upon the nether, like to the lid of a boxe. In the ſea they live of muſcles, cockles, and ſuch ſmall ſhell-fiſhes, for their mouthes are ſo hard that they be able to cruſh and breake ſtones therewith. Their manner is to go aland, where among the graſſe they lay egges as bigge as birds egs, to the number commonly of an hundred. When they have ſo done, they hide them within the earth in ſome little hole or gutter, ſure enough from any place where the water commeth, they cover them with mould, beat it hard downe with their breaſt, and ſo pat it ſmooth, and in the night time ſit upon them: they couvie a whole yeere before they hatch. Some ſay, that the looking wiſtly upon their egges with their
E eyes ſerveth in ſtead of ſitting. The female flieth from the male, and will not abide to engender, untill ſuch time as he pricke her behind and ſticke ſomewhat in her taile for running away from him ſo faſt.

The Troglodites have among them certaine Tortoiſes, with broad hornes like the pegges in a Lute or Harpe, and the ſame will wagge and ſtirre ſo, as in ſwimming they helpe themſelves therewith, and are guided and directed by them. And this kind of Tortoiſe is called Celtium: of exceeding great bigneſſe, but rare to bee found and hard to come by: for their exceeding ſharpe prickes like rockes, among which they keepe, fright the Chelonophagi (who delight to feed upon them) that they dare not ſearch after them. And the Troglodites, unto whome theſe Tortoiſes uſe to ſwimme, adore them as holy and ſacred things.

F There be alſo land Tortoiſes (called thereupon in the workes that are made of them in pannell wiſe, Cherſinæ) found in the deſerts and wilderneſſe of Affrick, and principally in that part which is drie and full of ſands: and they are thought to live upon nothing els but the moiſt dew. And in very truth, no other living creature there breedeth beſides them.

Chap. xi.

Who first deuised the cleauing of Tortoise shel's into thin plates like pannell.

THe first man that inuented the cutting of Tortoise shells into thin plates, therwith to seele beds, tables, cupbourds, and presses, was *Carbilius Pollio*, a man verie ingenious and inuentiue of such toies, serving to roiot and superfluous expense.

Chap. xii.

A diuision of water beasts into their seuerall kinds.

THe creatures that breed and liue in the water, bee not all couered and clad alike: for some haue a skin ouer them, and the same hairie, as the Seales and Water horses. Others haue but a bare skin, as the Dolphins. There be againe that haue a shell like a barke, as the Tortoises: and in others, the shell is as hard as the flint, and such be the oysters, muscles, cockles, and winkles. Some be couered with crusts or hard pills, as the locusts: others haue besides them, sharpe prickes, as the Vrchins. Some be skaled, as fishes: others are rough-coated, as the Soles, and with their skins folke use to polish and smooth wood and yuorie. Some haue a tender and soft skin, as Lampreys: others none at all, as the Pourcuttle or Pourcontrell.

Chap. xiii.

Of the Sea-calfe, or Seale.

THe great Whales, called Pristis and Balæna, bring forth their young alive, and perfect liuing creatures: likewise all those that are couered with haire, as the Sea-calfe or Seale. She calueth on the drie land as other cattaile: and whensoeuer she calueth, she gleaneth afterwards as kine doe. The female is tied and lined to the male, like as bitches to dogges: shee neuer bringeth more than two at once; and she giueth milke at her dugs and paps, to her young. Shee bringeth them to the sea not before they be twelue daies old, and then she traineth and acquainteth them to swimme and keepe the water ordinarily. These Seales be hardly killed, unlesse a man dash out their braines. In their sleepe, they seeme to low or blea, and thereupon they be called Sea-calues. Docible they be and apt to learne whatsoeuer is taught them. They will salute folke with a kind of countenance and regard: also with a voice such as it is, resembling a certain rude and rumbling noise. If a man call them by their name, they will turn again, and in their language answer. There is no liuing creature sleepeth more soundly than they. The finnes which they use to swimme withall in the sea, serue their turns in stead of feet to go upon, when they be on land. Their skinnes, after they be flaied from their bodies, reteine still a proprietie and nature of the seas; for euer as the water doth ebbe, they are more rugged, and the haires or bristles stand up. Moreouer, their right finnes or legs are thought to haue a power and vertue to prouoke sleepe, if they be laid under ones beds head.

Chap. xiiii.

Of fishes that be without haire, how they breed, and how many sorts there be of them.

OF such creatures as want haires, two onely there be that bring forth their young with life: and namely, the Dolphin and the Viper. Of fishes, properly so called, there be 74 kinds: besides those that haue rough crustie skins, which I count not; whereof there be 30 sorts. Of euery one of them in particular, we will speake else-where, and at another time: for now wee are to treat of the natures of the chiefe and principall.

Chap. xv.

Of the names and natures of many fishes.

THe Tunies are exceeding great fishes: we haue seene some of them to weigh fifteen talents, and the taile to be two cubits broad and a span. In some fresh riuers also, there be fish found full

A full as bigge: and namely, the river-Whale called Silurus, in Nilus; the Lax, in the Rhene; the Attilus, in the Po. This fish groweth so fat with ease and lying still, that otherwhiles it weigheth a thousand pounds: and being taken with a great hooke fastened and linked to a chaine, cannot be drawne forth of the river but with certaine yokes of oxen. And yet as big as he is, there is one little fish in comparison of him called Clupea, that killeth him: for upon a marveilous desire that he hath to a certaine veine that he hath within his jawes, he biteth it in sunder with his teeth, and so dispatcheth the fore-named great fish Attilus.

As for the Silurus, a cut-throat hee is whersoever hee goeth, a great devourer, and maketh foule worke: for no living creatures come amisse unto him, he setteth upon all indifferently. The very horses oftentimes as they swim, he devoureth, and specially in Moenus, a river of Germanie

B neere to Lisboa or Erlisbornis.

Moreover, in the river Donow, there is taken the Mario, a fish much like to a Ruffe or Porpois. Also in the river Borysthenes, there is found a fish by report, exceeding great, with no chine nor bone at all betweene; and yet the meat thereof is passing sweet and pleasant.

Within Ganges, a river of India, there be fishes snouted and tailed as Dolphins, 15 cubits long, which they call Platanistæ. And *Statius Sebosus* reporteth as strange a thing besides, namely, that in the said river there be certaine wormes or serpents with two finnes of a side, sixtie cubits long, of colour blew, and of that hew take their name [and be called Cyonoeides.] He saith moreover, that they be so strong, that when the Elephants come into the river for drinke, they catch fast hold with their teeth by their trunkes or muzzles, and maugre their hearts force them

C downe under the water; of such power and force they are.

The male Tunies have no finnes under their bellies. In the spring time they goe out of the great [Mediteranean] sea, and by whole flotes and troupes enter into Pontus; for in no other sea doe they bring forth their young. Their young frie, which accompanie their dams (when they are lightned of their burden) into the sea again in the autumne, are called Cordylæ. Afterwards, they begin to call them Pelamides, and in Latine *Limosæ*, of the mud wherein they are kept: and when they be above one yeere old, then they be Tunies indeed, and so called. These Tunies are cut into peeces, whereof the nape of the necke, the bellie, and the flesh about the canell bone of the throat, are most commendable for meat: but these parcels onely when they be fresh and new killed, and yet then will they rise in a mans stomacke, and make him belch sower. The other

D parts being full of good meat and oleous withall, are laid in salt, and so put up in barrels and kept. And these peeces of the Tunie thus condite and powdred, are called Melandrya, cut in slices like to oke shingles for all the world. The woorst peeces of all others, be those that are next the taile, because they are not fat: but the best is that which is toward the throat: howsoever in other fishes the taile-peece is in greatest request, as being most stirred and exercised. As for the young Tunies called Pelamides, they are divided & cut into parcels, that be named Apolecti: but when they be cut peece-meale into certaine squares, those peeces are named Cybia.

All kind of fishes grow exceeding soone to their bignesse, and especially in the sea Pontus: the reason is, because a number of rivers bring fresh water into it, and in some sort make it sweet: and namely in it, there is one called Amia, which groweth so fast and so evidently, that a man

E may perceive how it waxeth from day to day. These fishes, togither with the old Tunies and the young, called Pelamides, enter in great flotes and skulls into the sea Pontus, for the sweet food that they there find: and every companie of them hath their severall leaders and captaines: and before them all, the Maquerels lead the way; which, while they be in the water, have a colour of brimstone; but without, like they be to the rest. The Maquerels serve the market well in Spaine, and furnish the fish-shambles: namely, when as the Tunies repaire not into their seas. As for the sea Pontus, there enter into it few or no ravenours that haunt and devoure fishes, unlesse it be the Seales and little Dolphins. The old Tunies, when they come into it, chuse the right side (upon the coast of Asia) but goe forth at the left. And this is the reason thereof, as it is thought, For that they see better with their right eye; and yet the sight of either of them is very good. With-

F in the channell of the Thracian Bosphorus, by which Propontis joyneth to the sea Euxinus, in the very streight of the Firth that divideth Asia from Europe, neare to Chalcedon upon the coast of Asia, there standeth a rocke, exceeding white and bright withall, which is so transparent and shining from the very bottom of the sea to the top of the water, that the Tunies (affrighted at the sodaine sight thereof) to avoid it, goe alwaies amaine in whole flotes, toward the cape

overagainſt Bizantium, which cape thereupon beareth the name of Auricorum. And therefore G
it is, that the Bizantines make great gaine by fiſhing for them: whereas the Chalcedonians have a great miſſe of that commoditie, and yet the arme of the ſea or frith betweene them, is not paſt halfe a mile, or a mile at the moſt, over. Now they ever wait for the North wind, that (together with the tide) they might with more eaſe paſſe out of Pontus. Howbeit, the onely taking of them at Bizantium, is when they returne againe into Pontus. In Winter the Tunnies ſtirre not nor raunge abroad: but looke, whereſoever they are then found to bee, there they take up their Winter harbour, and make their abode untill the Spring Æquinoctiall about mid March. Many a time they will accompanie the ſhips that ſaile thereby with full wind, and it is a wonderfull pleaſant ſight for the ſailers to ſee them from the ſterne, how for certaine houres together, and for the ſpace of ſome miles, they will follow and attend upon the poupe, H
be the wind never ſo good, nay, although they ſtrike at them with the trout ſpeare ſundrie times, or launce at them ſome three-tined inſtrument, yet wil they not be chaſed away, nor skared. Theſe Tunnies that thus wait upon the ſhips under ſaile, ſome call Pompili. Many of them paſſe the Summer time in Propontis, and never enter into Pontus. Soles likewiſe uſe the ſame manner, and yet yee ſhall have many Turbots there. Neither ſhall a man find the Cuttil there, although there be good ſtore of Sea cuts or Calamaries. Moreover, of Stone fiſhes, ſuch as live among rocks, the ſea Thruſh, the ſea Merle, and the purple ſhell-fiſhes are not to be found, where Oyſters notwithſtanding are in great abundance. For all ſuch Winter in the Ægæan ſea, called now Archipelago. Of them that enter into the ſea Pontus, there is none ſtaieth there, but goeth forth again, ſave onely the ſhell-fiſh called the Saredame or Trichia: for I thinke it good, in ſuch diverſitie of I
fiſhes names, ſeeing that one and the ſelfeſame fiſh is in many countries called diverſly, to uſe the Greeke name for the moſt of them. Theſe fiſh, I ſay, alone goe up the river Iſter, and out of it they paſſe againe by certaine iſſues and conduits under the ground, and ſo deſcend into the Adriatick ſea: and evermore a man ſhall ſee this kind of fiſh comming downe thither, but never mounting up againe out of that ſea. The right fiſhing for the Tunnies, and the onely taking of them is from the riſing of the ſtarre *Vergiliæ, to the ſetting of Arcturus. All the Winter time beſides they lie hidden in the deepe, at the bottome of pits and gulfes within the ſea, unleſſe they come foorth to take their pleaſure in ſome warme ſeaſon, or otherwhiles when the Moon is at the full. They grow ſometime ſo fat, that their skins will not hold, but they are readie to cleave and burſt withall. The longeſt time that they live is two yeares and not above. Moreover, there is a little creature or vermine, made ſomewhat like a Scorpion, and as big as a Spider, which uſually will ſet her ſharp ſting K
under the fin both of the Tunnie, and alſo of the ſword-fiſh (which many times is bigger than the Dolphin) and put them to ſuch paine, that to avoid them, they oftentimes are driven to launce themſelves, and skip into the very ſhips. Which propertie they have alſo at other times, for fear of the violence of other fiſhes: and moſt of all, the Mullets have this caſt with them; and this they doe with ſuch exceeding ſwiftneſſe and agilitie, that they will fling themſelves otherwhiles croſſe over the ſhips.

* i. In the beginning of May.

Chap. xvi.

Of preſages and foretokenings by fiſhes, and of their diverſitie. L

NAture willing to endue this Element alſo of the water with ſome Auguries, hath given to fiſhes likewiſe a kind of preſcience and fore-knowledge of things to come. And verily during the Sicilian war, as *Auguſtus Cæſar* walked along the ſhore upon the ſands, there was a certaine fiſh leapt forth of the ſea, and light at his very feet. The Soothſaiers and Wiſards upon this occurrent, being ſought unto, gave this conſtruction thereof, and preſaged therby, That they who at that time were lords of the ſea, and held it in ſubjection, ſhould be ranged under the obedience of *Cæſar*, and at his devotion. And yet at that preſent it is thought and ſaid, That god *Neptune* had adopted *Sex. Pompeius* for his ſon, ſo fortunate he was, and ſuch exploits had he atcheeved upon the ſea.

The female kind of fiſhes are commonly bigger than the males. And there are ſome ſorts of M
them, whereof there be no males at all, but all females, as the Erythini and the Chani. For they be taken alwaies ſpawners, and full of egs.

Fiſhes that bee skaled, for the moſt part ſwim in troupes, and ſort together. The beſt fiſhing is before the ſunne be up: for then fiſhes ſee leaſt or not at all. For if the nights be cleare and moon-

ſhine

A shine, they see as well by night as day. Moreover, they say that it is good fishing twise in one and the same hole: for commonly upon the second cast, the draught is better than the first. Fishes love passing well to tast oyle: they joy also and like well in soft and gentle shewers, and therewith they will feed and become fat. And good reason there is of it: for why? we see by experience that canes and reedes, although they breed in meeres and standing waters, yet they grow not to the purpose without raine. Moreover, it is observed, that fish keeping evermore in one dead poole and never removed, will die whersoever it be, unlesse there fall raine water to refresh them. All fishes feele the cold of a sharpe and hard Winter, but those especially, who are thought to have a stone in their head, as the Pikes, the Chromes, Scienæ, & Pagri. If it be a bitter season in winter, many of them are taken up blind. And therefore during those cold moneths, they lurke hid-
B den in holes, and within rockes, like as we have said, certaine land creatures doe. But above all others the Lobstars called Hippuri, and the Coracini, cannot abide extremitie of cold, and therefore be never caught in winter, unlesse it be at certain times when they come forth of their holes, which they keepe duly, and never stirre but then. In like sort, the Lamproie, the Orphe, the Conger, Perches and all stone-fishes that love rocks and gravell. Men say verily, that the crampe-fish, the Plaice, and the Sole lie hidden all Winter time in the ground, that is to say, in certaine crevises and chinkes which they make in the bottome of the sea. Contrariwise, some againe be as impatient of heat, and can as ill away with hote weather: and therefore about Midsummer for 60 daies they lie hidden and are not to be seene: as the sea-fish Glaucus, the Cod, and the Gilthead. Of river-fishes, the Silurus or Sturgeon in the beginning of the dog daies is blasted and striken
C with a planet: at other times also in a thunder and lightening he is smitten, so as therewith he is astonied and lieth for dead. And some thinke that the like accident befalleth to the sea Breame Cyprinus. And verily, all quarters of the sea throughout, feele the rising of the dog-starre: but most of all the influence and power thereof is to be seene in the streight of Bosphorus. For then may a man perceive ordinarily the reites of the sea, and the fishes flote aloft, and the sea so troubled, that every thing is cast up from the bottome to the upper part of the water.

Chap. xvii.

Of the Mullet and other fishes: and that the same in all places are not of like request.

D THe Mullets have a naturall ridiculous qualitie by themselves, to be laughed at: for when they be afraid to be caught, they will hide their head, and then they thinke they bee sure ynough, weening that all their bodie is likewise hidden. These Mullets nevertheless are so letcherous, that in the season when they use to engender, in the coasts of Phœnice and Languedoc, if they take a milter out of their stewes or pooles where they use to keepe them, and draw a long string or line through the mouth and guls, and so tie it fast, and then put him into the sea, holding the other end of the line still in their hands, if they pull him againe unto them, they shal have a number of spawners or females follow him hard at taile to the banke side. Semblably, if a man doe the same with the female in spawning time, hee shall have as many milters follow after
E her. And in this manner they take an infinite number of Mullets.

In old time our auncestours set more store by the Sturgeon, and it carried the name above all other fishes. He is the only fish that hath the skales growing toward the head: hee swims against the streame. But now adaies there is no such reckoning and account made of him: whereat I marvell much, considering he is so hard and seldome to be found. Some call him Elops. Afterwards, *Cornelius Nepos*, and *Laberius* the Poet and maker of merie rimes have written, that the sea Pikes and the Cods gat away all the credit from the Sturgeon, and were of greatest request. As for the Pikes aforesaid, the best and most commendable of all others be they which are called Lanati, as a man would say Cotton Pikes, for the whitenesse and tendernesse of their flesh. Of Cods there be two sorts, Callariæ, or Hadocks, which be the lesse: and Bacchi, which are never taken but in
F the deepe, and therefore they are preferred before the former. But the Pikes that are caught in the river be better than all others. The fish called Scarus now carieth the price and praise of all others, and this fish alone is said to chew cud, to live of grasse and weeds, and not to prey upon other fishes. In the Carpathian sea great store of them is found: and by their good will they never passe the cape or promontorie Lectos in Troas. In the daies of *Tiberius Claudius* the Emperour,

Optatus his freed man (who ſometime had been a ſlave of his) and then Admirall and Lieutenant generall of a fleet under him, brought them firſt out of that ſea, and with them ſtored the whole coaſt of our ſeas betweene Oſtia and Campania. Order was taken by ſtreight inhibitions for the firſt five yeares, to kill none that were put into thoſe ſeas, but if any were taken, that they ſhould be caſt in againe. In proceſſe of time many of them came to be found and taken up all along the coaſt of Italie, whereas before, they were not to be had in thoſe parts. See how gluttonie, and the deſire to pleaſe a daintie tooth, hath deviſed means forſooth to ſow fiſh, and to tranſplant them as it were, ſo to ſtore the ſea with ſtrange breed: ſo that now we need no more to marvell, that forraine birds and foules, fet out of farre countries have their airies at Rome, and breed there. Next to theſe fiſhes abovenamed the table is ſerved with a kind of Lamprels or Eleponts like to ſea Lampreis, which are bred in certaine lakes about the Alpes, and namely, in that of Rhœtia called Brigantinus: and a ſtrange thing it is, that they ſhould be ſo like in proportion to thoſe of the ſea. Of all other fiſhes of any good account, the Barble is next, both in requeſt, and alſo in plentie. Great in quantitie they are not: for hardly ſhall you find any of them weigh above two pound, neither will they feed and grow in ſtewes and ponds. They are bred onely in the Northren ſea: and never ſhall you ſee them in the coaſt of the Weſt Ocean. Moreover, of this fiſh there be ſundrie ſorts. And they live all of Reites and Seawds, of Oyſters, of the fat mud, and of the fleſh of other fiſhes. They have all of them two beards, as it were, hanging downe evidently from their nether jaw. The worſt of all this kind, is that which is called Lutarius. And this fiſh hath another named Sargus, that willingly evermore beareth him companie: for whiles hee is rooting into the mud (whereof hee taketh his name) then commeth the Sargus, and devoureth the food that is raiſed therewith. Neither are the Barbels much accepted that keepe neare the ſhore, and in the river within land. But the beſt ſimply are thoſe that taſt like unto the ſhell-fiſh Conchylium. *Feneſtella* gave them the name Mulli, of certaine moyles or fine ſhoes, which in colour they doe reſemble. They caſt ſpawne thrice in one year at the leaſt: for ſo often their yong Frie is ſeene. Our great belligods ſay, that a Barble when hee is dying, changeth his hue, and turneth into an hundred colours: the proofe and experience whereof may be ſeene if he be put into a glaſſe: for through it, it is a pretie ſport to ſee how he altereth and changeth his skales being readie to die, one while into a pale and wan colour, otherwhiles into a reddiſh hue, one after another for many times together. *M. Apicius* (who was a man of all others moſt inventive and wonderfull for his wittie deviſes to maintaine riot and exceſſe) thought it was a ſingular way to ſtiffle and kill theſe Barbels in a certaine Pickle, called the Romane Allies ſauce, (ſee how even ſuch a thing as that, hath found a ſurname forſooth and a proper addition.) And he alſo went about to provoke men to deviſe a certaine manger or broth made of their livers, like to that dripping or gravie called Alec, that commeth of fiſhes when they pine and corrupt. For ſurely it is more eaſie for me to ſay who ſet men a worke that way firſt, than to ſet downe who woon the beſt game in the end, and was the greateſt glutton. *Aſturius Celer*, a man of great calling and high place, who ſometime had been Conſull, ſhewed his prodigalitie in this fiſh, and it was when *C. Caligula* was Emperour: for he gave for one Barbell eight thouſand Seſterces. Certes, the conſideration hereof raviſheth my mind, and carrieth it away to behold and wonder at thoſe, who in their reproofes of gluttonie and goormandiſe, complained, that a cooke carried a greater price in the market than a good horſe of ſervice. For now adaies a cooke will coſt as much as the charge of a triumph: and one fiſh as deere as a cooke. And to conclude, no man is better eſteemed and regarded more, than he that hath the moſt cunning caſt to waſt the goods, and conſume the ſubſtance of his lord and maiſter.

Chap. xviii.

Of the Barbill, the fiſh Coracinus, Stock fiſh, and Salmon.

Licinius Mutianus reporteth, That in the red ſea there was taken a Barbell that weighed fourſcore pounds. Oh, what a price would he have borne among our gluttons here with us! what would he have coſt our prodigall ſpendthrifts, if hee had been taken upon our coaſts neere Rome? Moreover, this is the nature of fiſh, that ſome are cheeſe in one place, and ſome in another. As for example, the Coracinus in Ægypt carrieth the name for the beſt fiſh. At Gades in Spaine, the Doree or Goldfiſh, called Zeus and Faber. About the Iſle Ebuſus, the Stock-fiſh is much

much called for; whereas in other places it is counted but a baſe, muddie, and filthie fiſh: and which no where els they know how to ſeeth perfitely, unleſſe it be firſt well beaten with cudgels. In the countrey of Aquitaine or Guienne in Fraunce, the river Salmon paſſeth all other ſea Salmons whatſoever.

Of fiſh, ſome have many folds of guils: ſome ſingle, others double. At theſe guils they deliver againe and put forth the water that they take in at the mouth. You may know when fiſh bee old by their hard skales: and yet all fiſhes are not skaled alike. There be two lakes in Italie at the foot of the Alpes, named Larius and Verbanus, wherein fiſhes are to be ſeene every yeere at the riſing of the ſtarre Vergiliæ, thicke of skales, and the ſame ſharpe pointed, like to the tongues of buckles, wherewith horſemen or men of armes doe faſten their greives: and never els but about that month doe they appeare.

Chap. xix.

Of the fiſh Exocœtus.

THe Arcadians make wonderous great account of their Exocœtus; ſo called, for that he goeth abroad and taketh up his lodging on the drie land for to ſleepe. This fiſh (by report) about the coaſt Clitorius, hath a kind of voice, and yet is without guils. And of ſome hee is named Adonis. But beſides him, the ſea Tortoiſes alſo, (called Mures Marini) the Polypes and Lampreis uſe to goe forth to land. Moreover, in the rivers of India there is one certain fiſh doth ſo, but it leapeth backe againe into the water. For whereas many other fiſhes doe paſſe out of the ſea into rivers and lakes, there is great and evident reaſon thereof, namely, for that they are in more ſafetie there, both to caſt their ſpawne under the wind where the water is not ſo rough, and full of waves: and alſo to bring forth their little ones, becauſe there be no great fiſhes to devour them. That theſe dumbe creatures ſhould have the ſence hereof, thus to know theſe cauſes, and obſerve duly their times, is very ſtrange and wonderfull, if a man would ſound the depth thereof: but more hee would marvell to conſider how few men there bee that know which is the beſt ſeaſon for fiſhing, namely, whiles the ſunne paſſeth through the ſigne Piſces.

Chap. xx.

A diviſion of fiſhes, according to the forme and ſhape of their bodies.

OF ſea-fiſhes ſome be plaine and flat, as Byrts or Turbots, Solds, Plaice, and Flounders. And theſe differ from the Turbots only in the making of their bodie. For in a Turbot the right ſide turneth upward, and in a Plaice the left. Others again be long and round as the Lamprey and the Congre. And hereupon it is, that they have a difference in their fins, which Nature hath given to fiſh in ſteed of feet. None have above foure, ſome have twaine, ſome three, others none at all. Onely in the lake Fucinus there is a fiſh, which in ſwimming uſeth eight finnes. All that be long and ſlipperie as Yeeles and Congres, have ordinarily two in all, and no more. Lampreies have none to ſwim with, ne yet perfect guils: all of this kind wind and wriggle with their bodies within the water, and ſo erch forward, like as Serpents doe upon the earth. They creep alſo when they are upon drie land: and therefore ſuch live longer than the reſt out of the water. Alſo of the foreſaid flat fiſhes ſome have no finnes, as the puffen or forke-fiſh: for their breadth ſerveth them ſufficiently to beare them up, and to ſwim. And among thoſe that are counted ſoft, the Pourcuttell hath no fins, for his feet ſtandeth him in ſteed of fins to ſwim withall.

Chap. xxi.

Of Yeeles.

YEeles live eight yeeres. And if the North wind blow, they abide alive without water ſixe daies, but not ſo long in a Southerne wind. But yet in Winter time they may not endure to be in a little water, nor if it be thicke and muddie: whereupon, about the riſing of the ſtarre Virgiliæ they bee commonly taken, for that the rivers about that time uſe to bee troubled. Their feeding moſt commonly is in the night. Of all fiſh, they alone (if they be dead) flote not above the water.

Chap.

G

Chap. xxii.

The manner of taking them in the lake Benacus.

THere is a lake in Italie called Benacus, within the territorie of Verona, through which the river Mincius runneth. At the issue wherof every yeare about the moneth of October, when the Autumne starre Arcturus ariseth, whereby (as it evidently appeareth) the lake is troubled as it were with a Winter storme and tempest, a man shall see rolling among the waves a wonderfull number of these yeels wound and entangled one within another: insomuch, as in the leapeweeles & weerenets devised for the nonce to catch them in this river, there be found sometime, a thousand of them wrapped together in one great ball.

H

Chap. xxiii.

Of the Lamprey.

THe Lampreysspawneth at all times of the yeare, whereas all other Fishes are delivered of their young at one certaine season or other. The egs or spawne grow to a great passe exceeding soone. If they chance to slip out of the water to the drie land, the common sort is of opinion, that they engender with Serpents. The male or milter of this kind, *Aristotle* calleth Myrus. And herein is the difference: that the spawner properly called Muræna, is of sundrie colours, and spotted, and withall but weake: but the Mylter or the Myrus is of one hue, and withall very strong, having teeth standing without his mouth. In the North parts of France all the Lampreis have in their right jaw seven spots, resembling the seven starres about the North pole, called *Charlemaines* waine. They bee of a yellow colour, and glitter like gold, so long as the Lampreis be alive: but with their life they vanish away and be no more seen, after they be dead. *Vedius Pollio*, a gentleman of Rome by calling, and one of the great favorites and followers of *Augustus Cæsar*, devised experiments of crueltie by the means of this creature. For he caused certain slaves condemned to die, to be put into the stewes where these Lampreies or Murænes were kept, to be eaten and devoured of them: not for that there were not wild beasts enow upon the land for this feat, but because he tooke pleasure to behold a man, torne and pluckt in peeces all at once: which pleasant sight he could not see by any other beasts upon the land. It is said, that if they tast vinegre of all things, they become enraged and mad. They have a very thin & tender skin: contrariwise yeeles have as thicke and tough: and *Verrius* writeth, That boies under seventeen years of age, were wont to be swinged and whipped with yeeles skins, and therfore they were freed from all other mulct and punishment.

I

K

Chap. xxiiii.

Of flat and broad fishes.

OF flat and broad fishes, there is another sort, which in lieu of a chine or backe bone have a gristle. As the Ray or Skait, the Puffin like unto it, the Maids or Thornebacke, and the Crampefish: moreover, those which the Greekes have tearmed by the names of their sea Cow, their Dog-fish, their Ægle and Frog of the sea. In this ranke are to bee raunged the Squali also, albeit they are not so flat and broad. All this kind in generall, *Aristotle* hath called in Greeke Selache, and he was the first that gave them that name: wee in Latine cannot distinguish them, unlesse we call them all Cartilaginea, that is to say, Gristly fish. But all the sort of them that devour flesh are such: and their manner is to feed lying backward, like as wee observed in the Dolphins. And whereas other fishes cast spawn, which resemble knots of egs; these gristly fishes only, as also those great ones which we call Cete, *i.* Whales, bring forth their young alive: and yet I must except the one kind of them which they call Rana, *i.* the sea Frogs.

L

Ray
Skaitfish
Dog-fish
Dolphin

Chap. xxv.

M

Of Echeneis, [i. the stay-ship.]

Echeneis

THere is a very little fish, keeping ordinarily about rockes named Echeneis. It is thought that if it settle and sticke to the Keele of a ship under water, it goeth the slower by that meanes:

whereupon

A whereupon it was so called: and for that cause also it hath but a bad name in matters of love, for enchanting as it were both men and women, and bereaving them of their heat & affection that way: as also in law cases, for delay of issues and judiciall trials. But both these imputations and slaunders, it recompenseth againe with one good vertue and commendable qualitie that it hath: For in women great with child, if it be applied outwardly, it staieth the dangerous fluxe of the wombe, and holdeth the child unto the full time of birth. Howbeit, it is not allowed for meat to bee eaten. *Aristotle* thinketh, that it hath a number of feet, the finnes stand so thicke one by another.

As for the shell-fish Murex, *Mutianus* saith it is broader than the Purple, having a mouth neither rough nor round, ne yet with a becke pointed cornered wise, but plaine and even, having
B a shell, which on both sides windeth and turneth inward. These Fishes chaunced upon a time to cleave fast unto a ship, bringing messengers from *Periander*, with commission to gueld all the noblemens sonnes in Gnidos, and staied it a long time, notwithstanding it was under saile and had a strong gale of a fore-wind at the poupe. And hereupon it is, that these shell-fishes for that good service, are honoured with great reverence in the temple of *Venus*, among the Gnidians.

But to returne againe unto our Stay-ship Echeneis, *Trebius Niger* saith it is a foot long, and five fingers thick, and that oftentimes it staieth a ship. And moreover, as he saith, it hath this vertue, being kept in salt, to draw up gold that is fallen into a pit or well being never so deepe, if it be let downe, and come to touch it.

C

Chap. xxvi.

The changeable nature of Fishes.

THe Cackarels change their colour: for these fishes being white all Winter time, they waxe blacke when Summer commeth. Likewise, the Mole or Lepo called Phycis, doth alter her hue: for howsoever all the yeare besides it be white, in the Spring it is speckled. This is the onely Fish that buildeth upon the reites and mosse of the sea, and laieth her egs, or spawneth in her nest. The sea Swallow flieth: and it resembleth in all points the bird so called. The sea Kite doth the same.

D

Chap. xxvii.

Of the fish called the Lanterne, and the sea Dragon.

THere is a Fish commeth ordinarily above the water, called Lucerna, for the resemblance which it hath of a light or lanterne. For it lilleth forth the tongue out of the mouth, which seemeth to flame and burne like fire, and in calme and still nights giveth light and shineth. There is another Fish that putteth forth hornes above the water in the sea, almost a foot and a halfe long, which thereupon tooke the name Cornuta. Againe, the sea Dragon if he be caught and let goe upon the sand, worketh himselfe an hollow trough with his snout incontinently, with
E wonderfull celeritie.

Chap. xxviii.

Of bloudlesse fishes.

SOme Fishes there be which want bloud: whereof wee now will speake. Of them are three sorts. First, those which bee called Soft: secondly such as be covered with thin crusts: and in the last place, they that are enclosed within hard shels. Of the first sort, which be counted soft, are reckoned the sea Cut or Calamarie, the Cuttle, the Polype, & the rest of that sort. These have their head betweene their feet and the bellie, and every one of them have eight feet. As for
F the Cuttill and the Calamarie, have two feet apeece longer than the rest, and the same rough, wherewith they convey and reach meat to their mouths: and with those they stay themselves as it were with anchor hold against the surging waves: the rest of their feet bee small like haires, and with them they hunt and catch their prey.

Chap.

Chap. xxix.

Of the Calamarie, Cuttles, Polypes, and Boat-fishes called Nautili.

ALso the Calamarie launceth himselfe out of the water, as if hee were an arrow: and even so doth little Scalops. The male of the Cuttles kind, are spotted with sundry colours more darke and blackish, yea and more firme and steadie, than the female. If the female be smitten with a Trout-speare, or such like three-forked weapon, they will come to aid and succor her, but shee againe is not so kind to them: for if the male be strucken, shee will not stand to it, but runneth away. But both of them, the one as well as the other, if they perceive that they be taken in such streights that they cannot escape, shed from them a certaine blacke humour like to inke, and when the water therewith is troubled and made duskish, therein they hide themselves, and are no more seene.

Of Polypes or Pourcontrels, there be sundrie kinds. They that keepe neere to the shoare are bigger than those that haunt the deepe. All of them help themselves with their finnes and arms, like as we doe with feet and hands: as for their taile, which is sharpe and two forked, it serveth them in the act of generation. These Pourcontrels have a pipe in their back, by the help whereof they swim all over the seas; and if they can shift, one while to the right side, and another while to the left. They swim awrie or side-long with their head above, which is verie hard, and as it were puft up, so long as they be alive. Moreover, they have certaine hollow concavities dispearsed within their clawes or armes like to ventoses or cupping glasses, whereby they will sticke too, and cleave fast, as it were by sucking, to any thing; which they claspe and hold so fast (lying upward with their bellies) that it cannot be plucked from them. They never settle so low as the bottome of the water: and the greater they be, the lesse strong they are to claspe or hold any thing. Of all soft fishes, they only goe out of the water to drie land, especially into some rough place; for they cannot abide those that are plain and even. They live upon shell-fishes, and with their hairs or strings that they have, they will twine about their shells and cracke them in peeces: and therefore a man may know where they lie and make their abode, by a number of shells that lie before their nest. And albeit otherwise it be a very brutish and sensleese creature, so foolish withall, that it will swim and come to a mans hand; yet it seemeth after a sort to be wittie and wise, and keeping of house and maintaining a family: for all that they can take, they carrie home to their nest. When they have eaten the meat of the fishes, they throw the emptie shells out of dores, and lie as it were in ambuskado behind, to watch and catch fishes that swim thither. They chaunge their colour oftentimes, and resemble the place where they be, and especially when they be afraid. That they gnaw and eat their owne clawes and armes, is a meere untruth; for they be the Congres that doe them that shrewd turne: but true it is, that they will grow againe, like as the taile of snakes, adders, and lizards. But among the greatest wonders of Nature, is that fish, which of some is called Nautilos, of others Pompilos. This fish, for to come aloft above the water, turneth upon his backe, and raiseth or heaveth himselfe up by little and little: and to the end he might swim with more ease, as disburdened of a sinke, he dischargeth all the water within him at a pipe. After this, turning up his two foremost clawes or armes, hee displaieth and stretcheth out betweene them, a membrane or skin of a wonderfull thinnesse: this serveth him in stead of a saile in the aire above water: with the rest of his armes or clawes, he roweth and laboureth under water; and with his taile in the mids, hee directeth his course, and steereth as it were with an helme. Thus holdeth he on and maketh way in the sea, with a faire shew of a foist or galley under saile. Now if he be afraid of any thing in the way, hee makes no more adoe but draweth in water to ballast his bodie, and so plungeth himselfe downe and sinketh to the bottome.

Chap. xxx.

Of the many-foot fish called Ozæna, of the Nauplius, and Locusts of the sea, or Lobster.

OF the Polypus or Pourcontrell kind with many feet, is the Ozæna, so called of the strong savour of their heads, for which cause especially, the Lampreys follow in chase after him.

As

A As for the Many-feet or Pourcuttels, they lie hidden for two moneths togither: and above two yeers they live not. They die alwaies of a conſumption or Phthyſicke: the female ſooner than the males, and ordinarily after that they have brought forth their young frie. I cannot overpaſſe but record the reports of *Trebius Niger*, one of the traine and retinue of *L. Lucullus* Proconſull in Bœtica, which he upon his knowledge delivered as touching theſe Many-feet fiſhes called Polypi: namely, That they are moſt deſirous and greedie of cockles, muſcles, and ſuch like ſhell-fiſhes: and they againe on the contrarie ſide, ſo ſoone as they feele themſelves touched of the Polypes, ſhut their ſhels hard, and therewith cut aſunder their clawes or armes that were gotten within: and thus fall they to feed upon thoſe, who ſought to make a prey of them. [Now in very truth theſe ſhell-fiſhes, all of them ſee not at all, neither have they any other ſenſe, but taſting
B of their meat, and feeling of their drinke.] Theſe Polypi fore-ſeeing all this, lie in wait to ſpie when the ſaid cockles, &c. gape wide open, and put in a little ſtone betweene the ſhells, but yet beſide the fleſh and bodie of the fiſh, for feare leaſt if it touched and felt it, ſhe would caſt it forth againe: thus they theeve, and without all daunger and in ſecuritie get out the fleſhie ſubſtance of the meat to devoure it: the poore cockles draw their ſhells together for to claſpe them betweene (as is above-ſaid) but all in vaine, for by reaſon of a wedge betweene, they will not meet cloſe nor come neere togither. See how ſubtle and craftie in this point theſe creatures be, which otherwiſe are moſt ſottiſh and ſenſeleſſe. Moreover, the ſaid *Trebius Niger* affirmeth, that there is not any other beaſt nor fiſh in the ſea more daungerous to doe a man a miſchiefe within the water, than is this Pourcuttle or Many-feet Polypus: for if he chaunce to light upon any of theſe dy-
C vers under the water, or any that have ſuffered ſhipwracke and are caſt away, hee aſſailes them in this manner: He catcheth faſt hold of them with his clawes or armes, as if he would wreſtle with them, and with the hollow concavities and noukes betweene, keepeth a ſucking of them; and ſo long he ſucketh and ſoketh their bloud (as it were cupping-glaſſes ſet to their bodies in divers places) that in the end he draweth them drie. But the onely remedie is this; to turne them upon their back, and then they are ſoon done and their ſtrength gone: for let them lie ſo, they ſtretch out themſelves abroad, and have not the power to claſpe or comprehend any thing. And verily all living creatures in the ſea love the ſmell of them exceeding well, which is the cauſe that fiſhers beſineare and annoint their nets with them, to draw and allure fiſhes thither.

The reſt which mine author hath related as touching this fiſh, may ſeeme rather monſtrous
D lies and incredible, than otherwiſe: for he affirmed, that at Carteia there was one of theſe Polypi, which uſed commonly to go forth of the ſea, and enter into ſome of their open ceſterns and vaults among their ponds and ſtewes, wherein they kept great ſea-fiſhes, and otherwhiles would rob them of their ſalt-fiſh, and ſo go his waies againe: which hee practiſed ſo long, that in the end he gat himſelfe the anger and diſpleaſure of the maſters and keepers of the ſaid ponds and ceſterns, with his continuall and immeaſurable filching: wherupon they ſtaked up the place and empalled it round about, to ſtop all paſſage thither. But this thiefe gave not over his accuſtomed haunt for all that, but made meanes by a certaine tree to clamber over and get to the fore-ſaid ſalt-fiſh; and never could he be taken in the manner nor diſcovered, but that the dogges by their quicke ſent found him out and bayed at him: for as he returned one night toward the ſea, they
E aſſailed and ſet upon him on all ſides, and therewith raiſed the foreſaid keepers, who were affrighted at this ſo ſodaine an alarme, but more at the ſtraunge ſight which they ſaw. For firſt and foremoſt this Polype fiſh was of an unmeaſurable and incredible bigneſſe: and beſides, hee was beſmeared and beraied all over with the brine and pickle of the foreſaid ſalt-fiſh, which made him both hideous to ſee to, and alſo to ſtinke withall moſt ſtrongly. Who would ever have looked for a Polype there, or taken knowledge of him by ſuch markes as theſe? Surely they thought no other, but that they had to deale and encounter with ſome monſter: for with his terrible blowing and breathing that he kept, he drave away the dogges, and otherwhiles with the ends of his long ſtringed winding feet, he would laſh and whip them; ſomtimes with his ſtronger clawes like arms he rapped and knocked them well and ſurely, as it were with clubs. In ſumme, he made ſuch good
F ſhift for himſelfe, that hardly and with much adoe they could kill him, albeit he received many a wound by trout-ſpeares which they launced at him. Well, in the end his head was brought and ſhewed to *Lucullus* for a wonder, and as bigge it was as a good round hogſhead or barrell that would take and containe 15 Amphores: and his beards (for ſo *Trebius* tearmed his clawes and long-ſtringed feet) carried ſuch a thicknes and bulke with them, that hardly a man could fathom

one

one of them about with both his armes, ſuch knockers they were, knobbed and knotted like clubs, and withall 30 foot long. The concavities within them, and hollow veſſels like great baſons, would hold four or five gallons apeece: and his teeth were anſwerable in proportion to the bignes of his bodie. The reſt was ſaved for a wonder to be ſeen, and waighed 700 pound weight. This author of mine *Trebius* affirmeth, that Cuttels alſo and Calamaries have been caſt upon that ſhore, full as bigge. Indeed in our ſea there be Calamaries taken of five cubits long, and Cuttels of twaine, in length: and theſe live not above two years. G

Mutianus reporteth, that himſelfe ſaw in Propontis another kind of fiſh, carrying as it were a ſhip of his owne, and making ſaile with it like to ſome galley: and a ſhell-fiſh it was, faſhioned with a keele like to a barge or barke, with a poupe embowed and turned up: yea and armed as it were in the proe with a three-forked pike. Within which lay hidden (as he ſaith) another living creature called Nauplius, reſembling a Cuttle-fiſh; and for no other reaſon in the world, but to make ſport and play with it for companie. Now the manner of this paſtime and ſailing was in two ſorts: for if it were a calme ſea and the winds downe, the Nauplius afore-ſaid that went as a paſſenger in this ſhell, would put downe his feet into the water like ores, and row therewith; but if a gale of wind were aloft, he would ſtretch the ſame alength and make them ſerve inſtead of an helme to ſteere withall; and then the Coquill or ſhell-fiſh would ſpread and diſplay it ſelfe like ſailes, to gather wind: ſo as the one of them tooke a pleaſure to carrie, in manner of the veſſell; the other had his delight to labour as a mariner, and to direct withall like to a pilot. Thus theſe two fiſhes (otherwiſe ſenſleſſe and blockiſh) take their pleaſure togither, unleſſe peradventure it fall out unhappily (for certain it is that ſuch a ſight as this preſageth no good to ſailers) that men marre their ſport, and either part them aſunder, or force them to ſinke under water. H I

The Lobſters (being of that kind which wanteth bloud) have a tender and brittle cruſt to cover and defend them. For five moneths they lie hidden. The Crabs likewiſe, who at the ſame time keepe cloſe and ſecret: and both of them in the beginning of every ſpring caſt their old coats or ſhells as ſnakes do their skins, and take them that be new and freſh. All others of this kind ſwim within the water: but the Lobſters flote aloft, and creepe as it were upon the water. So long as they are ſecure of any feare and daunger, they go directly ſtreight, letting downe their horns at length along their ſides, which naturally by themſelves have a round point or bob at the end: but if they be in any feare, up goe thoſe hornes ſtraight, and then they creepe by and go ſidelong. With theſe hornes they oftentimes maintaine battaile one with another. Of all creatures, this onely hath a tender and ſhort kind of fleſh, which in the ſeething will not hang togither, unleſſe it be ſodden alive in ſcalding water, and then it will be ſtiffe and callous as brawne. K

Chap. xxxi.

Of Sea-crabs, Vrchins of the ſea, and great Vrchins called Echinometræ.

AS for the Lobſters, they love rockes and ſtonie places: but Crabs delight in ſoft and delicate places. In winter, they ſeeke after the warme or ſun-ſhine ſhore: but when ſummer is come, they retire into the coole and deepe holes in the ſhade. All the ſort of them take harme and paire by winter: in autumne and ſpring, they battle and waxe fat; and eſpecially when the moon is at the full: becauſe that planet is comfortable in the night time, and with her warme light mitigateth the cold of the night. Of theſe Crab-fiſhes, there be many kinds: to wit, Lobſters, Creyviſhes of the ſea, Crabs of Barbarie called Majæ, Grampels, Grits or Pungiers, Crabs of Heraclea, yellow river Creyfiſhes, and divers others of more baſe account. As for the Lobſters, they differ from the reſt in taile. In Phœnicia, there is a kind of Crabs called Hippœe, or rather Hippeis (that is to ſay, Horſes or Horſemen) which are ſo ſwift, that it is impoſſible to overtake them. Crabs live long: eight cleos or feet they have apeece, all crooked and hooked: the female hath the fore-cleo double, the male but ſingle. Moreover, two of their legs or arms are forked and toothed like pincers. The upper part of theſe fore clawes doth ſtir: the nether part mooveth not. The right legge in them all is bigger than the left. When they come in skulls all togither (as ſometimes they doe) they are not able to paſſe one by another the ſtreights of the ſea Pontus about Conſtantinople, whereupon they are forced to returne backe and fetch a compaſſe about, and the beaten way with their tracks may be ſeene. The leaſt of all theſe kind of Crabs, is L M

called

called * Pinnotheres, and for his smalnesse, most subject and exposed to take wrong. But as subtle and craftie he is, as he is little: for his manner is to shrowd and hide himselfe within the shels of emptie oysters: and ever as he groweth bigger and bigger, to goe into those that be wider. Crabs when they be affraid, will recule backward as fast as they went forward. They will fight one with another, and then yee shall see them jurre and butt with their hornes like rammes. Singular good they are against the biting and stinging of serpents. It is reported, that whiles the sunne is in the signe Cancer, the bodies within of dead Crabs that lie with the water upon the drie land, will turne to be Scorpions. Of the same sort that the Crabs be, are the Vrchins of the sea called Echini; and these, in stead of feet, have certain pointed prickles. Their manner of going, is to roll themselves, and tumble round: and therefore many times shall ye find them with their pricks worne. And of this sort be they that are called Echinometræ. The longest prickles they have of all others, and the least shells or cases wherein they are. Neither are they all of the same colour of glasse: for about Torone they are found to be white, and have small pricks. They have all of them five egges when they lay, but they are bitter. Their mouths stand in the mids of their bodies, bending downward to the earth. It is said, that they have a fore-sight and knowledge beforehand, of a sea tempest: for by reason that they are so round, and therefore soon whirled and carried here and there, they fall then to labour and gather stones, wherewith they charge and peise their bodies as with ballast, that they may abide more stedfast, for that they are not willing to weare their pricks with rolling and turning over and over: which when the mariners and sailers perceived once, then presently they cast many ankers, and stay their ships.

* Or, Pinnotetes.

Chap. XXXII.

Of Winkles, and sea-Snailes.

IN the same ranke are to be reckoned the Winkles, as well of the land as the water. When they put themselves out of their shells, they thrust out two hornes that they have, and they will plucke them in againe when they list. Eies have they none to see withall; and therefore these little hornes serve them in good stead, to sound as it were and trie the way as they go.

Chap. XXXIII.

Of Scallops: of the greatest Winkle called Murex, and other kinds of shell-fishes.

THe great Scallops in the sea, are counted of the same race: which lie hidden also in the time as well of great heat as cold. They have certaine nailes as it were, shining like fire in the night season: yea in their very mouthes that be eating of them. As for the Pourcelanes or Murices, they have a stronger skaled shell; as also all the kind of Winkles great & small: Wherein a man may see the wonderfull varietie of Nature in this play and pastime of hers, giving them so many and sundrie colours, with such diversitie of formes and figures: for of them ye shall have flat and plaine, hollow, long, horned like the moone croissant, full round, halfe round, and cut as it were just through the mids, bow backt and rising up, smooth, rough, toothed and indented like a saw, ridged and chamfired betweene, wrinkling and winding upward to the top like caltraps, bearing out sharpe points in the edges, without-forth broad and spread at large, within-forth rolled in plaits. Moreover, there be other distinct shapes besides all these: some bee striped and raied with long streakes, others crested and blasing with a bush of long haire: some againe crisped and curled, others made like an hollow gutter or pipe: some fashioned as it were a combe, others waving with plaits one above another tile-wise, others framed in the manner of a net or lattise: some are wrought crooked and byas, others spread out directly in length. A man shall see of them, those that are made thicke and mossie thrust togither and compact, others stretched forth at large: yee shall have of them wrapt and lapt one within another. And to conclude, ye shall find them run round into a short fast knot, and all their sides united togither in one: some flat and plaine, good to give a clap; others turning inward crooked like a cornet, made as it were to sound and wind withall. Of all these sorts, the Pourcelanes or *Venus* Winkles, swimme above the water, and with their concavitie and hollow part which they set into the weather, helpe themselves in stead of sailes, and so gathering wind, saile as it were aloft

upon the ſea. The manner of the Scalops is to skip, and otherwhiles they will leape forth of the water. They alſo can find the meanes to make a boat of themſelves, and ſo flote above and ſaile handſomely. G

Chap. xxxiiii.

The riches of the Sea.

BVt what meane I all this while to ſtand upon theſe ſmall trifling matters, when as in very truth the overthrow of all honeſtie, the ruine of good manners, and in lieu thereof all ryot and ſuperfluitie, proceedeth from theſe ſhell-fiſhes, and from nothing ſo much? For now the world is growne to this paſſe, that there is nothing in it whatſoever, ſo chargeable to mankind, nothing ſo hurtfull and daungerous, as is the very Sea, and that ſo many waies: namely, in furniſhing the table with ſuch varietie of diſhes, in pleaſing and contenting the taſt with ſo many daintie and delicate fiſhes: and thoſe carrie the higheſt price, that be gotten with the greateſt hazard and daunger of thoſe that take them: otherwiſe they be of no regard and value to ſpeake of. H

Chap. xxxv.

Of Pearles: how, and where they be found.

HOwbeit all that before-named is nothing in compariſon to the Purples, precious Coquils, and Pearls that come from thence. It was not ſufficient belike to bring the ſeas into the kitchin, to let them down the throat into the belly, unleſſe men and women both carried them about in their hands and eares, upon their head, and all over their bodie. And yet what ſocietie and affinitie is there betweene the ſea and apparell? what proportion betweene the waves and ſurging billowes thereof, and wooll? For ſurely this Element naturally receiveth us not into her boſome, unleſſe we be ſtarke naked. And ſet the caſe that there were ſo great good fellowſhip with it, and our bellies; How commeth our backe and ſides to be acquainted with it? But we were not contented to feed with the perill of ſo many men, unleſſe we be clad and arraied alſo therewith. Oh the folly of us men! See how there is nothing that goeth to the pampering and trimming of this our carcaſſe, of ſo great price and account, that is not bought with the utmoſt hazard, and coſteth not the venture of a mans life! But now to the purpoſe. The richeſt merchandiſe of all, and the moſt ſoveraigne commoditie throughout the whole world, are theſe Pearles. The Indian Ocean is chiefe for ſending them: and yet to come by them, wee muſt goe and ſearch amongſt thoſe huge and terrible monſters of the ſea, which we have ſpoken of before. We muſt paſſe over ſo many ſeas, and ſaile into farre countries ſo remote, and come into thoſe parts where the heat of the ſunne is ſo exceſſive and extreame: and when all is done, wee may perhaps miſſe of them: for even the Indians themſelves are glad to ſeeke among the Ilands for them; and when they have done all they can, meet with very few. The greateſt plentie of them is to be found in the coaſt of Taprobane and Toidis, as hath been ſaid before in our Coſmographie and deſcription of the world: and likewiſe about Perimula, a promontorie and citie of India. But the moſt perfect and exquiſite of all others, be they that are gotten about Arabia, within the Perſian gulfe of the red ſea. This ſhell-fiſh which is the mother of Pearle, differeth not much in the manner of breeding and generation, from the oyſters: for when the ſeaſon of the yeere requireth that they ſhould engender, they ſeeme to yawne and gape, and ſo doe open wide; and then (by report) they conceive a certaine moiſt dew as ſeed, wherewith they ſwell and grow bigge; and when time commeth, labour to be delivered hereof: and the fruit of theſe ſhell-fiſhes are the pearles, better or worſe, great or ſmall, according to the qualitie and quantitie of the dew which they received. For if the dew were pure and cleare which went into them, then are the pearles white, faire, and orient: if groſſe and troubled, the pearles likewiſe are dimme, foule, and duskiſh; pale (I ſay) they are, if the weather were cloſe, darke, and threatning raine in the time of their conception. Whereby no doubt it is apparent and plaine, that they participate more of the aire and skie, than of the water and the ſea; for according as the morning is faire, ſo are they cleere: otherwiſe, if it were miſtie and cloudie, they alſo will be thicke and muddie in colour. If they may have their full time and ſeaſon to feed, the pearles alſo will thrive and grow bigge: but if in the time it chaunce to lighten, then they cloſe their ſhells togither, and for want of nou- I K L M

riſhment

A riſhment are kept hungrie and faſting, and ſo the pearles keepe at a ſtay and proſper not accordingly. But if it thunder withall, then ſodainly they ſhut hard at once, and breed onely thoſe excreſcences which be called Phyſemata, like unto bladders puft up and hooved with wind, and no corporall ſubſtance at all: and theſe are the abortive & untimely fruits of theſe ſhell-fiſhes. Now thoſe that have their full perfection, and be ſound and good indeed, have many folds and skins wherein they be lapt, not unproperly as it may be thought, a thicke, hard, and callous rind of the bodie, which they that be skilfull doe pill and cleanſe from them. Certes, I cannot chuſe but wonder how they ſhould ſo greatly be affected with the aire, and joy ſo much therein: for with the ſame they wax red, and looſe their native whiteneſſe and beautie, even as the bodie of a man or woman that is caught and burnt with the ſunne. And therefore thoſe ſhells that keepe in the
B maine ſea, and lie deeper than that the ſun-beames can pierce unto them, keepe the fineſt and moſt delicate pearles. And yet they, as orient as they be, waxe yellow with age, become riveled, and looke dead without any lively vigor: ſo as that commendable orient luſtre (ſo much ſought for of our great lords and coſtly dames) continueth but in their youth, and decaieth with yeeres. When they be old, they will proove thicke and groſſe in the very ſhells, and ſticke faſt unto their ſides, ſo as they cannot be parted from them, unleſſe they be filed aſunder. Theſe have no more but one faire face, and on that ſide are round, for the backe part is flat and plaine; and hereupon ſuch are called Tympania, as one would ſay, Bell pearles. We ſee daily of theſe ſhells which ſerve as boxes to carrie ſweet perfumes and precious ointments, and moſt commendable they are for this gift, That in them there be pearles of this ſort naturally growing togither like twins.
C The pearle is ſoft and tender ſo long as it is in the water, take it forth once and preſently it hardeneth. As touching the ſhell that is the mother of Pearle, aſſoone as it perceiveth and feeleth a mans hand within it, by and by ſhe ſhutteth, and by that meanes hideth and covereth her riches within: for well woteth ſhe that therefore ſhe is ſought for. But let the fiſher looke well to his fingers, for if ſhe catch his hand betweene, off it goeth: ſo trenchant and ſharpe an edge ſhe carrieth, that is able to cut it quite a two. And verily this is a juſt puniſhment for the theefe, and none more: albeit ſhee be furniſhed and armed with other meanes of revenge. For they keepe for the moſt part about craggie rockes, and are there found: and if they be in the deepe, accompanied lightly they are with curſt Sea-dogs. And yet all this will not ſerve to skare men away from fiſhing after them: for why? our dames and gentlewomen muſt have their eares behan-
D ged with them, there is no remedie. Some ſay, that theſe mother-pearles have their kings and captaines, as Bees have: that as they have their ſwarmes led by a maſter Bee, ſo everie troupe and companie of theſe, have one ſpeciall great and old one to conduct it; and ſuch commonly have a ſingular dexteritie and woonderfull gift to prevent and avoid all daungers. Theſe they be that the dyvers after pearles are moſt carefull to come by: for if they be once caught, the reſt ſcatter aſunder and be ſoone taken up within the nets. When they be thus gotten, it is ſaid that they be put up into earthen pots and well covered with ſalt: and when the ſalt hath eaten and conſumed all the fleſh within, then certaine kernels that were within their bodies (and thoſe be the verie pearles) fall downe and ſettle to the bottome of thoſe pots. There is no doubt but with much uſe they will weare, yea and chaunge colour through negligence, if they be not
E well looked unto. Their chiefe reputation conſiſteth in theſe five properties, namely, if they be orient white, great, round, ſmooth, and weightie. Qualities I may tell you, not eaſily to be found all in one: inſomuch as it is impoſſible to find two perfitly ſorted togither in all theſe points. And hereupon it is, that our dainties and delicates here at Rome, have deviſed this name for them, and call them Vniones; as a man would ſay, Singular, and by themſelves alone. For ſurely the Greekes have no ſuch tearmes for them, neither know they how to call them: nor yet the Barbarians, who found them firſt out, otherwiſe than Margaritæ. In the very whiteneſſe it ſelfe, there is a great difference among them. That which is found in the red ſea, is the clearer and more orient. As for the Indian pearle, it reſembleth the ſkales and plates of the ſtone called Specularis; howſoever otherwiſe it paſſeth all others in greatneſſe. The moſt commendation
F that they have is in their colour, namely, if they may be truly called Exaluminati, *i.* orient and cleare as Alume. They that be goodly great ones, are commendable in their degree. As for thoſe that are long and pointed upward, growing downward broader and broader like a peare, or after the manner of Alabaſter boxes, full and round in the bottome, they be called Elenchi. Our dames take a great pride in a braverie, to have theſe not only hang dangling at their fingers,

but also two or three of them together pendant at their eares. And names they have forsooth G
newly devised for them, when they serve their turne in this their wanton excesse and superfluitie of roiot: for when they knocke one against another as they hang at their eares or fingers, they call them Crotalia, *i.* Cymbals: as if they tooke delight to heare the sound of their pearles ratling together. Now adaies also it is growne to this passe, that meane women and poore mens wives affect to weare them, because they would be thought rich: and a by-word it is among them, That a fair pearle at a womans eare is as good in the street where she goeth as an huisher to make way, for that every one will give such the place. Nay, our gentlewomen are come now to weare them upon their feet, and not at their shoe latchets onely, but also upon their startops and fine buskins, which they garnish all over with pearle. For it will not suffice nor serve their turne to carie pearles about them, but they must tread upon pearles, goe among pearles, and walke as it were H
on a pavement of pearles.

Pearles were wont to be found in our seas of Italie, but they were small and ruddie, in certaine little shell fishes which they call Myæ: but more plentie of such were taken up in the streights of Bosphorus neere Constantinople. Howbeit, in Acarnania there is a little Cochle called Pinna, [*i.* a Nacre,] which engendreth such. Wherby it may appeare, that there be more than one sort of Mother-pearles. For king *Iuba* likewise hath left in writing, that in Arabia there is a kind of shelfish like unto a Scallop, save that it is not chamfred, but thick and rough like unto a sea Vrcheon, which beareth Pearls within the very flesh of the fish, like unto haile stones. But now adaies there be no such mother-pearles come to our coasts. Neither be there found in Acarnania any of value and reputation. For why they are all in manner without proportion, neither round nor weightie, and of a marble colour. They rather about the cape of Actium are better, and yet they be but little ones: like as they also which are taken in the coasts of Mauritania. *Alexander Polyhistor*, and *Sudines*, are of opinion that they will age, and in the end loose their colour. That they be solide and not hollow within, is evident by this, that with no fall they will breake. But they bee not alwaies found in the middest of the flesh within the mother-pearles, but here & there, sometime in one place, and sometime in another. Verily I have seene ot them about the brim and edges of the shell, as if they were readie to goe foorth: and in some foure, in others five together. Vnto this day few of them have beene knowne to weigh above halfe an ounce and one scriptule. In
*England. *Brittaine it is certaine that some do grow; but they bee small, dim of colour, and nothing orient. For *Iulius Cæsar* (late Emperour of famous memorie) doth not dissimule, that the cuirace K
or breast-plate which hee dedicated to *Venus* Mother within her temple, was made of English pearles.

I my selfe have seene *Lollia Paulina* (late wife, and after widdow, to *Caius Caligula* the emperor) when shee was dressed and set out, not in stately wise, nor of purpose for some great solemnitie, but only when she was to goe unto a wedding supper, or rather to a feast when the assurance was made, and great persons they were not that made the said feast: I have seen her, I say, so beset and bedeckt all over with hemeraulds and pearles, disposed in rewes, rankes, and courses one by another: round about the attire of her head, her cawle, her borders, her perruke of hair, her bongrace and chaplet; at her ears pendant, about her neck in a carcanet, upon her wrest in bracelets, & on her fingers in rings; that she glittered & shone againe like the sun as she went. The value of these L
* 40 Millions. ornaments, she esteemed and rated at *400 hundred thousand Sestertij: and offered openly to prove it out of hand by her books of accounts and reckonings. Yet were not these jewels the gifts and presents of the prodigall prince her husband, but the goods and ornaments from her owne house, fallen unto her by way of inheritance from her grandfather, which hee had gotten together even by the robbing and spoiling of whole provinces. See what the issue and end was of those extortions and outrageous exactions of his: this was it, That *M. Lollius* slandered and defamed for receiving bribes and presents of the kings in the East; and being out of favor with *C. Cæsar*, sonne of *Augustus*, and having lost his amitie; dranke a cup of poyson, and prevented his judiciall triall: that forsooth his neece *Lollia*, all to be hanged with jewels of 400 hundred thousand Sestertij, should bee seene glittering, and looked at of every man by candlelight all a sup- M
per time.

If a man would now of the one side reckon what great treasure either *Curius* or *Fabricius* carried in the pompe of their triumphs; let him cast a proffer and imagine what their shewes were, what their service at the table was: and on the other side, make an estimate of *Lollia*, one only woman

A man, the dowagier of an Emperour, in what glorie she sitteth at the bourd; would not he wish rather, that they had been pulled out of their chariots, and never triumphed, than that by their victories the state of Rome should have growne to this wastfull excesse and intollerable pride? And yet this is not the greatest example that can be produced of excessive riot and prodigalitie.

Two onely Pearles there were together, the fairest and richest that ever have beene knowne in the world: and those possessed at one time by *Cleopatra* the last queene of Ægypt; which came into her hands by the means of the great kings of the East, and were left unto her by descent. This princesse, when *M. Antonius* had strained himselfe to doe her all the pleasure hee possibly could, and had feasted her day by day most sumptuously, & spared for no cost: in the heigth of her pride and wanton braverie (as being a noble curtezan, and a queene withall) began to debase the ex-

B pence and provision of *Antonie*, and made no reckoning of all his costly fare. When he thereat demaunded againe how it was possible to goe beyond this magnificence of his: she answered againe, that she would spend upon him in one supper *100 hundred thousand Sestertij. *Antonie*, who would needs know how that might bee (for hee thought it was unpossible) laid a great wager with her about it, and she bound it againe, and made it good. The morrow after, when this was to be tried, and the wager either to bee won or lost, *Cleopatra* made *Antonie* a supper (because she would not make default, and let the day appointed to passe) which was sumptuous and roiall ynough: howbeit, there was no extraordinarie service seene upon the bourd: whereat *Antonius* laughed her to scorne, and by way of mockerie required to see a bill with the account of the particulars. She againe said, that whatsoever had been served up alreadie, was but the overplus a-

C bove the rate and proportion in question, affirming still, that shee would yet in that supper make up the full summe that shee was seazed at: yea, her selfe alone would eat above that reckoning, and her owne supper should cost *600 hundred thousand Sestertij: and with that commaunded the second service to bee brought in. The servitours that waited at her trencher (as they had in charge before) set before her one onely crewet of sharpe vineger, the strength whereof is able to resolve pearles. Now she had at her eares hanging those two most precious pearles, the singular and onely jewels of the world, and even Natures wonder. As *Antonie* looked wistly upon her, and expected what shee would doe, shee tooke one of them from her eare, steeped it in the vineger, and so soon as it was liquefied, dranke it off. And as she was about to do the like by the other, *L. Plancius* the judge of that wager, laid fast hold upon it with his hand, and pronounced withall,

D That *Antonie* had lost the wager. Whereat the man fell into a passion of anger. There was an end of one pearle: but the fame of the fellow thereof may goe with it: for after that this brave queen the winner of so great a wager, was taken prisoner and deprived of her roiall estate, that other pearle was cut in twaine, that in memoriall of that one halfe supper of theirs, it should remaine unto posteritie, hanging at both the eares of *Venus* at Rome, in the temple Pantheon. And yet as prodigall as these were, they shall not goe away with the prize in this kind, but shall loose the name of the cheefe and principall, in superfluitie of expence. For long before their time, *Clodius* the sonne of *Aesope* the Tragedian Poet, the only heire of his father, who died exceeding wealthie, practised the semblable in two pearles of great price: so that *Antonie* needeth not to bee over prowd of his Triumvirate, seeing that hee hath to match him in all his magni-

E ficence, one little better than a stage-plaier: who upon no wager at all laid, (and that was more princely, and done like a king) but only in a braverie, and to know what taste pearles had, mortified them in vinegre, and drunke them up. And finding them to content his palat wonderous well, because hee would not have all the pleasure by himselfe, and know the goodnesse thereof alone, he gave to every guest at his table one pearle apeece to drinke in like manner.

Feneſtella writeth, that after Alexandria was conquered and brought under obedience to the Romans, Pearles were rife at Rome, and commonly used of every man: also, that about the troublesome time of *Sylla* they began first to be in request: and those were but small ones, and of no price. Howbeit, he is grossely deceived, and in a great error. For *Ælius Stilo* doth report in his Chronicle, that in the time of the warre against *Iugurtha*, the faire and goodly great Pearles be-

F gan to be named Vniones.

These Pearles (to say a truth) are of the nature (in a manner) of an inheritance to descend by perpetuitie. They follow commonly in right the next heires. When they passe in sale, they goe with warrantize, in as solemne manner as a good lordship.

As for the rich Purples, and the pretious Conchyles, every coast is full of them. And yet to

that exceſſe and prodigalitie we are now growne, and our wanton roiot (the mother of all inor- G
dinate and waſtfull expence) hath made them well neere as deere as Pearles.

Chap. xxxvi.

The nature of purple fiſhes, and the Murex or Burret.

PVrples live ordinarily ſeven yeares. They lie hidden for thirtie daies ſpace about the dog daies, like as the Murices or Burrets doe. They meet together by troupes in the ſpring, and with rubbing one againſt another, they gather and yeeld a certaine clammie ſubſtance and moiſture in manner of waxe. The Murices doe the like. But that beautifull colour, ſo much in requeſt for dying of fine cloth, the Purples have in the midſt of their neck and jawes. And nothing H
elſe it is, but a little thin liquor within a white veine: and that is it which maketh that rich, freſh, and bright colour of deepe red purple roſes. As for all the reſt of this fiſh, it yeeldeth nothing. Fiſhers ſtrive to take them alive, for when they die, they caſt up and ſhed that precious teinture and juice, together with their life. Now the Tyrians, when they light upon any great Purples, they take the fleſh out of their ſhels, for to get the bloud out of the ſaid vein: but the leſſer, they preſſe and grind in certaine milles, and ſo gather that rich humour which iſſueth from them. The beſt purple colour in Aſia is this, thus gotten at Tyros. But in Affricke, within the Iſland Meninx, and the coaſt of the Ocean by Getulia. And in Europe, that of Laconica. This is that glorious colour, ſo full of ſtate and majeſtie, that the Roman Lictors with their rods, halberds, and axes, make way for: this is it that graceth and ſetteth out the children of princes and noblemen: this maketh I
the diſtinction betweene a knight and conſellor of ſtate: this is called for and put on when they offer ſacrifice to pacifie the gods: this giveth a luſtre to all ſorts of garments: and to conclude, our great Generals of the field, and victorious captaines in their triumphs weare this purple in their mantels, enterlaced and embrodered with gold among. No marvell therefore if Purples be ſo much ſought for: and men are to be held excuſed, if they runne a madding after Purples. But how ſhould the other ſhell-fiſhes called Conchylia, be ſo deere and high priſed, conſidering the teincture of them carrieth ſo ſtrong and ſtinking a ſavor, ſo ſullen and melancholie a colour, enclining to a blew or watchet, and reſembling rather the angrie and raging ſea in a tempeſt? But to come unto the particular deſcription. The Purple hath a tongue of a finger long, pointed in the end ſo ſharpe, and ſo hard withall, that it is able to bore an hole and pierce into other ſhell- K
fiſhes, and thereby ſhe feeds and gets her living. In freſh water they will die all, or if they be plunged and throwne in any river: otherwiſe, after they be taken, they will continue alive fiftie daies, even with that viſcous and ſlimie humor of their owne. All ſhell-fiſh in generall grow apace in a very ſmall time: but Purples ſooneſt of all others: for in one yeare they will come to their full bigneſſe. Now, if I ſhould lay a ſtraw here, and proceed no further in this diſcourſe of Purples and ſuch like, ſurely our luxurious and roiotous ſpendthrifts would thinke they had great wrong, and were defrauded of their right: they might I ſay complaine of me, and condemne me of idleneſſe and negligence. Therfore I care not much to put my head within the diers ſhops and workhouſes: that like as every man for the neceſſitie of this life, knoweth how the price of corne go- L
eth; even ſo our fine folke and brave dainties, who take ſuch pleaſure and delight in theſe colours, may bee perfect what is the reaſon of this their onely life. In the firſt place, theſe ſhell-fiſhes that ſerve either for purple colours, or other lighter dies of the Conchylia, are all one in matter: the difference onely is in temperature more or leſſe. And indeed, reduced they may all bee into two principall ſorts. For the leſſe ſhell called Buccinum, faſhioned like unto that horne or cornet, wherewith they uſe to wind and ſound, whereupon it tooke that name, hath a round backe, and is cut like a ſaw in the edges. The other is named Purpura, ſhooteth out a long becke like a guttur, and within the one ſide it doth writh and turne hollow in forme of a pipe, out of which the fiſh putteth forth a tongue. Moreover, this Purple is beſtudded (as it were) even as far as to the ſharpe top or turbant thereof round about with ſharpe knobs pointed, lightly ſeven in number: which the ſea-cornet Buccinum hath not. But this is common to both, that looke how many round- M
les they have like tendrils claſping about them, ſo many yeares old they bee. As for the Cornet Buccinum, it ſticketh alwaies to great ſtones and rockes, and therefore is ever found and gathered about them.

Chap.

A

Chap. xxxvii.

How many sorts there be of Purples.

PVrples have another name, and be called Pelagiæ, as one would say, Fishes of the deepe sea. But in truth there be many sorts of them, & those differing either in place where they keepe, or in food whereof they live. The first Lutense, *i.* muddie, because it is nourished of the corrupt and rotten mud: a second Algense (the worst of all) feeding upon reites or sea weeds named Alga: the third, Tænienſe, (better than the former twaine) for that it is gathered and taken up about the brimmes and borders of the sea, called for the resemblance of fillets or lists in a cloth,
B Tæniæ. And yet this kind yeeldeth but a light colour, and nothing deepe. There be of them also which they tearme Calculosæ, of the sea gravell, which is wonderous good for all these kind of wilkes and shell fishes. And last of all, which simply bee the very best, the Purples Dialetæ, that is to say, wandering too and fro, chaunging their pasture, and feeding in sundrie soiles of the sea, [the muddie, the weedie, and the gravelly.] Now these Purples are taken with small nets, and thin wrought, cast into the deepe. Within which, for a bait to bite at, there must be certaine winckles and cockles, that will shut and open, and be readie to snap, such as we see these limpins be, called Mituli. Halfe dead they should be first, that being new put into the sea againe, and desirous to revive and live, they might gape for water: and then the Purples make at them with their pointed tongue, which they thrust out to annoy them: but the other feeling themselves pricked there-
C with, presently shut their shels together, and bite hard. Thus the Purples for their greedinesse are caught and taken up, hanging by their tongues.

Chap. xxxviii.

The fishing time for Purples.

THe best time to take Purples, is after the dog star is risen, and before the Spring. For, when they have made that viscous muscilage in manner of waxe, their juice and humor for colour is overliquid, thin, and waterish. And yet the purple diers know not so much, nor take heed thereof, whereas indeed the skill thereof is a speciall point of their art, and wherein lieth
D all in all. Well, when they are caught, as is aboveſaid, they take forth that veine before mentioned: and they lay it in salt, or else they doe not well: with this proportion ordinarily, namely, to every hundred weight of the Purple liquour, a Sestier or pint and halfe of salt. Full three daies and no more it must thus lie soking in powder. For the frether that the colour is, so much is it counted richer and better. This done, they seeth it in leads, and to every Amphore, (*i.* which containeth about eight wine gallons) they put one hundred pound and a halfe just, of the colour so prepared. Boile it ought with a soft and gentle fire, and therefore the tunnell or mouth of the furnace must be a good way off from the lead and chawdron. During which time, the workemen that tend the lead, must eftsoones skim off and cleanse away the fleshie substance, which cannot chuse but sticke to the veines which containeth the juice or liquor of purple beforesaid. And thus
E they continue ten daies, by which time ordinarily the lead or vessell will shew the liquour cleere, as if it were sufficiently boiled. And to make a triall thereof, they dip into it a fleece of wooll well rensed and washt out of one water into another: and untill such time, that they see it give a perfect die, they still plie the fire, and give it a higher seething. That which staineth red is nothing so rich as that which giveth the deepe and sad blackish colour. When it is come to the perfection, they let the wooll lie to take the liquor five houres: then they have it forth, touse, and card it, and put it in againe, untill it hath drunke up all the colour, as much as it will. Now this is to be observed, that the sea cornet Buccinum maketh no good colour of it selfe: for their die will shed and loose the lustre. And therfore usually they joine to it the sea Purple Pelagium, which maketh too deepe and browne a colour: unto which it giveth a fresh and lively teinture, as it were in graine,
F and so maketh that sad purple which they desire. Thus by mixing and medling the force of both together, they mend one another, while the lightnesse or sadnesse of the one doth quicken and raise, or else dorr and take downe the colour of the other. To the dying of a pound of wooll, they use this proportion of two hundred Buccina or sea Cornets, joined with a hundred and eleven Pelagian Purples. And so commeth that rich Amethyst or purple violet colour, so highly commended

mended above all other. But the Tyrians make their deepe red purple, by dipping the wooll first G
in the liquor of the Pelagian purples onely, whiles it is not throughly boiled to the heigth, but as it were greene yet and unripe; and thereof they let it take what it can drinke. Soone after they change it into another caudron or lead, where the colour of the sea Cornets alone is boiled. And then is it thought to have a most commendable and excellent die, when it is as deepe a red as bloud that is cold and setled, blackish at the first sight, but looke betweene you and the light, it carieth a bright and shining lustre. And hereupon it is, that *Homer* calleth bloud, Purple.

Chap. xxxix.

When they began at Rome to weare Purple first.

H
I Find in Chronicles, that Purple hath ben used in Rome time out of mind. Howbeit, king *Romulus* never ware it but in his roiall habite or mantell of estate, called *Trabea*. And well known it is, *Tullus Hostilius* was the first Romane king, who after he had subdued the Tuscanes, put on the long purple robe named *Pretexta*, and the cassock broched and studded with scarlet in broad guards. *Nepos Cornelius* who died in the daies of *Augustus Cæsar* the Emperour, When (quoth he) I was a yong man, the light violet purple was rife and in great request, and a pound of it was sold
*ℨ lib. 2 sbil. 6 d. ob. vel. for a *hundred deniers: and not long after the Tarentine red purple or skarlet was much called for, and of the same price. But after it, came the fine double died purple of Tyros, called Dibapha: and a man could not buy a pound of it for a *thousand deniers, which was the price of ten
*ℨ l. lib. 5 sbil. pound of the other. *P. Lentulus Spinther* in his Ædileship of the chaire, first ware a long robe I
embrodered with it, and was checked and blamed therefore. But now adaies (quoth *Nepos*) what is he that will not hang his parlour and dining chamber therewith, and have carpets, cushins, and cup-bord clothes thereof? And it is no longer agoe when *Spinther* was Ædile, than in the seven hundreth year after the foundation of Rome, even when *Cicero* was Consull. This purple in those daies was called Dibapha, *i.* twice died: and that was counted a matter of great cost, & very stately withall and magnificent. But now yee shall have no purple cloths at all of any reckoning, but they have their double die. As for the cloth died with the purple of the shell-fish Conchylia, the manner of making the colour, and dying in all respects is the same, save that there be no sea Cornets used thereto. Moreover, the juice or liquor for that colour, is tempered with water in steed of the filthie pisse and urine of a man, altogether used in the other: and therein is sodden but K
the halfe proportion of colours to the foresaid tinctures. And thus is made that light pale stammell so highly commended, for being short of the deepe rich colour: and the lesse while that the wooll was suffered to drinke the fill, the more bright and fresh it seemeth.

Chap. xl.

The prices of wooll, died with these colours.

AS for these colours, they are valued deerer or cheaper, according to the coasts where these fishes are gotten more or lesse. Howbeit, it was never knowne that in any place, a pound of the right purple wooll, died with the Pelagian colour, or of the colour it selfe, was more
*ℨ lib. 18 sbil. 1 d. ob. worth than *five hundred Sesterces: nor a pound of the Cornets purple cost above one hundred. L
I would they knew so much that pay so deere for these wares by retale here at home, and cannot have them, but at an excessive rate. But here is not all, neither is this an end of expence that way, for one still draweth on another: and men have a delight to spend and lay on still one thing after another: to make mixtures and mixtures again, and so to sophisticate the sophistications of Nature: as namely to paint and die their seelings, even the very embowed rouses and arches in building: to mixe and temper gold and silver together, therewith to make an artificiall mettall Electrum: and by adding brasse or copper thereto, to have another mettall, counterfeiting the Corinthian vessels.

Chap. xli.

M
The manner of dying the Amethyst, Violet, or Purple, the Chrymson and Scarlet in graine, and the light Stammell or Lustie-gallant.

IT would not suffice our prodigall spendthrifts to rob the precious stone Amethyst of his name, and to applie it to a colour: but when they had a perfect Amethyst die, they must have it to bee drunken

A drunken againe with the Tyrian purple, that they might have a superfluous and double name compounded of both (Tyriamethystus) correspondent to their two-fold cost and duple superfluitie. Moreover, after they have accomplished fully the colour of the Conchylium, they are not content untill they have a second die in the Tyrian purple lead. It should seeme, that these double dies and compounded colours, came first from the errour and repentance of the workeman when his hand missed: and so was forced to change and alter that which hee had done before, and utterly misliked. And hereof forsooth is come now a prettie cunning and art thereof: & the monstrous spirits of our wastfull persons are growne to wish and desire that, which was a fault amended first: and seeing the two-fold way of a double charge and expence troden before them by the diers, have found the meanes to lay colour upon colour, and to overcast and strike a rich
B die with a weaker, so that it might be called a more pleasant and delicate colour. Nay it will not serve their turne to mingle the abovesaid tinctures of sea-fishes, but they must also doe the like by the die of land-colours: for when a wooll or cloth hath taken a crimson or skarlet in graine, it must be died again in the Tyrian purple, to make (I would not els) the light, red, and fresh Lustie-gallant.

Alluding to the word Amethyst, which resisteth drunkennesse.

As touching the Graine, serving to this tincture, it is red, and commeth out of Galatia, (as we shall shew in our storie of earthly plants) or else about Emerita in Portugall, & that of all other is of most account. But to knit up in one word these noble colours, note this, That when this Graine is but of one yeares age, it maketh but a weake tincture; but after foure years, the strength thereof is gone. So that neither young nor old it is of any great vertue. Thus I have sufficiently and
C at large treated of those meanes which men and women both, so highly esteeme, and thinke to make most for their state and honourable port, and setting out of themselves in the best maner.

Chap. xlii.

Of the Nacre, and his guide or keeper, Pinnoter: and the perceivance of fishes.

THe Nacre also called Pinnæ, is of the kind of shell-fishes. It is alwaies found and caught in muddie places, but never without a companion, which they call Pinnoter or Pinnophylax. And it is no other but a little shrimpe, or in some places, the smallest crabbe; which
D beareth the Nacre companie, and waiteth upon him for to get some victuals. The nature of the Nacre is to gape wide, and sheweth unto the little fishes her seelie bodie, without any eie at all. They come leaping by and by close unto her: and seeing they have good leave, grow so hardie and bold, as to skip into her shell and fill it full. The shrimpe lying in spiall, seeing this good time and oportunitie, giveth token thereof to the Nacre secretly with a little pinch. She hath no sooner this signall, but shee shuts her mouth, and whatsoever was within, crusheth and killeth it presently: and then shee devides the bootie with the little crab or shrimpe, her sentinell and companion. I marvell therefore so much the more at them who are of opinion, that fishes and beasts in the water have no sence. Why, the very Crampe-fish Tarped, knoweth her owne force & power, and being her selfe not benummed, is able to astonish others. She lieth hidden over head
E and eares within the mud unseene, readie to catch those fishes, which as they swim over her, bee taken with a numnednesse, as if they were dead. There is no meat in delicate tendernesse, preferred before the liver of this fish. Also the fish called the *sea Frog, (and of others, the sea Fisher) is as craftie everie whit as the other: It puddereth in the mud, and troubleth the water, that it might not bee seene: and when the little seely fishes come skipping about her, then she puts out her little hornes or Barbils which shee hath bearing forth under her eies, and by little and little tilleth and tolleth them so neere, that she can easily seaze upon them. In like manner, the Skate and the Turbot lie secret under the mud, putting out their finnes, which stirre and crawle as if it were some little wormes; and all to draw them neare, that she might entrap them. Even so dooth the Ray fish or Thorn-backe. As for the Puffen or Fork-fish, hee lieth in await like a theefe in a
F corner, readie to strike the fishes that passe by with a sharpe rod or pricke that hee hath, which is his weapon. In conclusion, that this fish is very subtile and craftie, this is a good proofe, That being of all others most heavie and slow, they are found to have in their bellie the Mullets, which of all others be the swiftest in swimming.

*Diable de Mer.

Chap.

Chap. xliii.

Of the Scolopendres, the sea Foxes, and the Glanis.

These Scolopendres of the sea, are like to those long earewigs of the land, which they call Centipedes, or many-feet. The maner of this fish is this, when she hath swallowed an hook, to cast up all her guts within, untill she hath discharged her selfe of the said hooke, and then she suppeth them in againe. But the sea Foxes in the like danger have this cast with them, namely to gather in and let it goe downe into the throat more and more still of the line, untill he come to the weakest part thereof, which he may easily fret and gnaw asunder. The Glanis is more slie and warie than they both: for his propertie is to bite at the backe of the hooke, and not to goble it up whole, but nibble away all the bait, and leave the hooke bare.

Chap. xliiii.

Of the Ram-fish.

This fish is a very strong theefe at sea, and makes foule worke where he commeth: for one while he squatteth close under the shade of bigge ships that ride at anker in the bay, where he lieth in ambush to wait when any man for his pleasure would swim and bath himselfe, that so he might surprise them: otherwhiles he putteth out his nose above the water, to spie any small fisher boats comming, & then he swimmeth close to them, overturneth and sinketh them.

Chap. xlv.

Of those that have a third or middle nature, and are neither living creatures nor yet Plants: also of the sea Nettle-fishes, and Spunges.

I Verily for my part am of opinion, that those which properly are neither beasts nor plants, but of a third nature betweene or compounded of both (the sea-Nettles I meane, and Sponges) have yet a kind of sense with them. As for those Nettles, there be of them that in the night raunge too and fro, and likewise chaunge their colour. Leaves they carrie of a fleshie substance, and of flesh they feed. Their qualitie is to raise an itching smart, like for all the world to the weed on the land so called. His manner is, when he would prey, to gather in his bodie as close, streight, and stiffe, as possibly may be. He spieth not so soone a silly little fish swimming before him, but hee spreadeth and displaieth those leaves of his like wings; with them he claspeth the poore fish, and so devoureth it. At other times, he lieth as if he had no life at all in him, suffering himselfe to be tossed and cast too and fro among the weeds, with the waves of the sea: and looke what fish soever he toucheth as he is thus floting, hee setteth a smart itch upon them, and whiles they scratch and rub themselves against the rocks for this itch, he setteth upon them and eateth them. In the night season, he laieth for sea Vrchins and Scalops. When he feeleth ones hand to touch him, he chaungeth colour, and draweth himselfe in close togither on a heap: and no sooner toucheth he one, but the place will itch, sting, and be readie to blister: make not good hast to catch him quickly, he is hidden out of hand and gone. It is thought verily, that his mouth lyeth in his root, and that hee voideth his excrements at a small pipe or issue above, where those fleshie leaves are.

Of Spunges, we find three sorts: the first thicke, exceeding hard, and rough; and this is called Tragos: a second, not all so thick, and somewhat softer; and that is named Manon: the third is fine and yet compact, wherewith they make sponges to cleanse and scoure withall, and this is tearmed Achilleum. They grow all upon rocks: and are fed with wilkes or shell-fish, with naked fish and mud. That they are not sensles, appeareth hereby, for that when they feele that one would plucke them away, they draw in and retire backe hard, so as with greater difficultie they are pulled from the rocke. The like doe they when they be beaten upon with waves. That they live upon some food, it is manifest by the little coquill and muscle shells that be found within them. And some say, that about Torone they continue still alive after they be plucked from the rocks: and that of the roots which are left behind, they grow againe. Moreover, upon those rocks from whence they be pulled, there is to be seen as it were some blood sticking; and especially in those of Affricke, which breed among the Syrtes. The Manæ, which otherwise be the least, become very great and most soft withall, about Lycia. But they be more delicate which are nourished in the

A the deepe gulfes, where leaſt wind or none is ſtirring. The rough kind, are in Helleſpont: and the fine and maſſie, about the cape Malea. In ſun-ſhine places they will corrupt and putrifie; and therefore the beſt are in the deepe gulfes and creeks, not expoſed to the ſun. They be of the ſame duske and blackiſh colour when they live, as they are afterwards being ſoked and full of moiſture. They cleave to rockes neither by any one part, nor yet entire and whole all over: for there are betweene, certaine void pipes foure or five commonly, by which they are ſuppoſed to receive their food and nouriſhment. There be more of theſe pipes and concavities, but above they are grown togither hard and not hollow. A certaine pellicle or thin skin a man may perceive them to have at their roots. For certein it is knowne, that they live long. The worſt kind of them all, be thoſe that are called Aplyſiæ, becauſe unneth they may be ſeparated, nor cleanſed and made cleane,
B they are ſo foule: for great pipes they have: thicke they are beſides throughout, and very maſſie.

Chap. xlvi.

Of Hound-fiſhes, or Sea-dogs.

THe dyvers that uſe to plunge downe into the ſea, are annoyed very much with a number of Sea-hounds that come about them, and put them in great jeopardie. And they ſay, that theſe fiſhes have a certain dim cloud or thin web, growing and hanging over their heads, reſembling broad, flat, and griſtly fiſhes, which clingeth them hard, and hindreth them from retiring backe and giving way. For which cauſe the ſaid dyvers (as themſelves ſay) carrie downe
C with them certaine ſharpe prickes or goads faſtened to long poles: for unleſſe they be proked at and pricked with them, they will not turne their backe; by reaſon (as I ſuppoſe) of a miſt before their eyes, or rather of ſome feare and amazednes that they be in. For I never heard of any man that found the like cloud or miſt (for this tearme they give unto that unhappie thing whatever it be) in the raunge of living creatures. But yet much adoe they have and hard hold with theſe Hound-fiſhes notwithſtanding: for they lay at their bellies and groines, at their heeles, and ſnap at everie part of their bodies that they can perceive to be white. The onely way and remedie is to make head directly affront them, and to begin with them firſt, and ſo to terrifie them: for they are not ſo terrible to a man, but they are as fraid of him againe. Thus within the deepe they are indifferently even matched: but when the dyvers mount up and riſe againe above water,
D then there is ſome ods betweene, and the man hath the diſadvantage, and is in more daunger; by reaſon that whiles he laboureth to get out of the water, he faileth of means to encounter with the beaſt, againſt the ſtreame and ſourges of the water. And therefore his onely recourſe is, to have helpe and aid from his fellowes in the ſhip: for having a cord tied at one end about his ſhoulders, he ſhaketh it with his left hand, to give ſigne in what daunger hee is, whiles he maintaineth fight with the right, by taking into it the puncheon with the ſharp point beforeſaid; and ſo at the other end they draw him to them: and they need otherwiſe to pull and hale him but ſoftly: mary when he is neere once to the ſhip, unleſſe they give him a ſodaine jerke and ſnatch him up quickly, they may be ſure to ſee him worried and devoured before their face: yea and when they are at the point to be plucked up, and even now readie to goe abourd, they are many
E times caught away out of their fellowes hands, if they beſtirre not themſelves the better, and put their owne good will to the helpe of them within the ſhip; namely, by plucking up their legges and gathering their bodies nimbly togither round as it were in a ball. Well may ſome from ſhip-bourd proke at the dogges aforeſaid with forkes; others thruſt at them with Trout ſpeares and ſuch like weapons, and all never the neare: ſo craftie and cautelous is this foule beaſt, to get under the very bellie of the barke, and ſo maintaine combat in ſafetie. And therfore all the care that theſe fiſhers have, is to provide for this miſchiefe, and to lie in wait for to entrap theſe fell, unhappie, and ſhrewd monſters.

Chap. xlvii.

F

Of thoſe fiſhes that lie within a ſtonie and hard flintie ſhell: alſo of thoſe that have no ſenſe: and of other naſtie and filthie creatures.

THe greateſt ſecuritie that fiſhers and dyvers have of ſafetie, is when they ſee the broad flat griſtly fiſhes: for certaine it is, that they be never in any place, where hurtfull and noiſome

beaſts

beasts doe haunt: which is the cause that these dyvers which ducke and plunge for sponges, G
call those fishes Sacred.

We must needs confesse, that fishes within stone shells, have small or no sense, as namely oysters. Many are of the nature of very Plants, to wit, those that they call Holothuria: also Pulmones, resembling the lungs of a beast: and Star-fishes, made in forme of starres (such stars I mean as it pleaseth the painter to draw.) In summe, what is there not bred within the sea? Even the verie fleas that skip so merrily in summer time within victualling houses and Innes, and bite so shrowdly: as also lice that love best to lie close under the haire of our heads, are there engendred and to be found: for many a time the fishers twitch up their hookes, and see a number of these skippers and creepers settled thicke about their baits which they laid for fishes. And this vermin is thought to trouble the poore fishes in their sleep by night within the sea, as well as us on land. H
Last of all, some fishes there be, which of themselves are given to breed fleas and lice, among which the Chalcis, a kind of Turbot, is one.

Chap. xlviii.

Of venimous Sea-fishes.

MOreover, the sea is not without her deadly poisons: for the Sea hare, which keepeth in the Indish sea, is so venimous, that the very touching of him is pestiferous; and presently causeth vomiting and over-turning of the stomacke, not without great daunger. They which be found in our sea, seeme to be a peece or lumpe of flesh without all forme and fashion, I
in colour onely resembling the land Hare. But with the Indians they be full as big, and resemble their Hare, onely it is more stiffe and hard. And verily they cannot possibly be taken there alive. The dragon or spider of the sea, is as daungerous and mischievous a creature as the other: and with the pricks that sticke forth of his chine and back-bone, he doth much hurt. But in no place is there any more detestable and pernicious, than is the pike that standeth out upon the taile of Trigonius, which we in Latine call *Pastinaca*, *i.* the Puffin or Forkfish of the sea; the which pike is five inches long. So venimous it is, that if it be strucken into the root of a tree, it killeth it: it is able to pierce a good cuirace or jacke of buffe, or such like, as if it were an arrow shot or a dart launced: but besides the force and power that it hath that way answerable to yron and steele, the wound that it maketh, is therewith poisoned. K

Chap. xlix.

Of fishes diseases.

WEe doe not here or read, that all sorts of fishes in generall be subject to maladies and diseases, as other beasts, and even those that are wild and savage. But that this or that fish in every kind may be sicke, it appeareth evidently, that some of them mislike and come to be carrion leane; whereas others of the same sort, be taken, not only in good plight but exceeding fat.

Chap. l. L

The wonderfull manner of their generation.

IN what sort fishes doe engender, if I should not in this place shew, but put it off further, I should doe great wrong to mankind, who desire to know it, as much as they wonder how it should be. In one word, fishes engender by the friction and rubbing of their bellies one against another: which they performe with such celeritie, that no eye is so quicke as to note and observe it. Dolphins, and other great Whales, have no other way but that, mary they are longer somewhat about their businesse. The spawner, when the time serveth for generation, followeth after the male, and never linneth pecking and jobbing at his bellie with her muzzle. Semblably M
a little before spawning time, the milters follow after the female, only for that they would eat their spawne when they have cast it. But this is to be noted moreover, that the foresaid mixture and engendring of theirs is not sufficient for to accomplish generation, unlesse when their egges be laid or spawne cast, both male and female take it between them and keepe a turning of it, thereby

A to breath a lively spirit into it, and as it were besprinkle it with a vitall dew, as it floteth upon the water. But turne they it and tosse it, breath they upon it as much as they will, yet all those little egs of their spawne doe not hit and come to proose: for if they did, all seas and lakes, and all rivers and pooles would be so pestered full with fishes, that a man should see nothing els: for there is not one of these females, but at once conceiveth an infinite number in her bellie.

Chap. LI.

More as touching the generation of fishes, and which they be that doe spawne in manner of egs.

B THe spawne or egs of fishes in the sea, doe grow unto perfection, some of them exceeding soone, as that of the Lampreies: others are later ere they doe so. All flat and broad fishes, such namely as have no tails and sharp pricks to hinder (as have the Thornback, Skate, and Tortoises) when they engender, leape one another. The many-foot Pour cuttels in this action fasten one of their winding clawes to the nose of the female. The Cuttels and Calamaries doe the feat with their tongues or pipes rather thrust into their mouths, clasping one another with their armes, and swimming one contrary to the other: and as they conceive at the mouth, so they deliver their fruit againe at the mouth. This only is the difference, that the shee Calamaries in this businesse, beare their heads downeward to the earth. As for those that are soft crusted, they doe it backward as dogs. Thus the Lobsters and Shrimpes engender. Crabs at the mouth. Frogs leape
C one another: the male with the forefeet claspeth the arme pits of the female, and with the hind-feet the hanches. That which is engendred and brought forth, is as it were some little mites of blackish flesh, which they call Tadpoles or Polwigs, shewing no good forme, but that they have some shew of eies onely, and a taile. Some few daies after, their feet are framed, and then parteth their taile in twaine, which serveth for the feet behind. And a strange thing it is of them: after they have lived some sixe moneths, they resolve into a slime or mud, no man seeth how: and afterward with the first raines in the Spring, returne againe to their former state, as they were first shapen, no man knoweth after what sort, by a secret and unknowne way incomprehensible; notwithstanding it falleth out ordinarily so every yeare. As for the Limpins, Muskles, and Scallops, they breed of themselves in the mud and sands of the sea. Those which are of an harder coat, as
D the Pourcelanes and Purples, of a certaine viscous and slimie substance like a muscilong. As for that little frie, resembling small gnats and flies of the sea, they come of a certaine putrifaction and sowernesse of the water: as the Apuæ, which are the groundlings and Smies, of the some of the sea set in an heat & chafed after some good shewer. They that are covered with a stonie shel, as Oisters, breed of the rotten and putrified slime and mud of the sea: or of the some that hath stood long about ships or stakes and posts set fast in the water, and especially if they be of Holme wood. Howbeit, it hath been found of late in Oister pits, that there passeth from them in steed of Sperme a certain whitish humor like milke. As for Yeeles, they rub themselves against rocks and stones, and those scrapings (as it were) which are fretted from them, in time come to take life and prove snigs, and no other generation have they. Fishes of diverse kinds engender not one
E with another, unlesse it bee the Skate and the Raifish: and of them there commeth a fish, which in the forepart resembleth a Ray, and in Greeke hath a name compounded of both [Rhinobatos.] Other fishes there be that breed indifferently on land and sea, according to the warm season of the yeare. In spring time Scallops, Snailes, and Horseleeches doe engender, and by the same warmth quicken and come to life; but in Autumne they turne to nothing. The Pike and Sardane breed twice a yeer, like as all stone-fishes. The Barbels thrice, as also a kind of Turbit called Chalcis, [*v.* the Shad:] the Carpe six times: the Scorpenes and Sargi twice, namely, in Spring and Autumne. Of flat broad fishes, the Skate onely twice in the yeer, to wit, in the Autumne, & at the setting or occultation of the star *Vergiliæ*. The greatest number of fishes engender for three months April, May, and June. The Cods or Stockfishes in Autumne. The Sargi, Crampfishes, & Squali,
F about the equinoctiall. Soft skinned fishes in the Spring: and the Cuttel in every month. The spawne of this fish, which hangeth together like a cluster of grapes, by the meanes of a certaine blacke glew or viscositie like ynke, the Milter dooth blow and breath upon before it can bee good, for otherwise it commeth to no proose. The Pour-cuttles engender in Winter, and in the Spring, and then bring foorth a spawne crisped and curled (as it were) like the wreathing

braunches and tendrils of a vine braunch; and that in such plentie, that when they are killed they are not able to receive and containe the multitude of their egges in the concavitie or ventricle of their head and belly, which they bare when they were great. They hatch them in fiftie daies, but many of them prove addle and never come to good, there is such a number of them. The Lobsters and the rest with thin shells, lay egge after egge, and sit upon them in that manner. The female Pourcuttle, one while sitteth over her egges, another while she covereth the cranie or gutter where she hath laid them, with her clawes and arms enfolded crosse one over another lattise-wise. The Cuttle laieth also upon the drie land among the reeds, or els whersoever shee can find any sea-weeds or reits to grow, and by the fifteenth day hatcheth. The Calamaries lay egges in the deepe, which hang close and thicke togither, as the Cuttles doe. The Purples, Burrets, and such like, doe lay in the spring. The sea Vrchins are with egge every full moone in the winter time: and the winkles or cockles are bred in the winter likewise. The Crampfish is found to have fourescore young at once within her, and hatcheth her tender and soft egges within her bodie, shifting them from one place of the wombe to another. In like manner doe all they which are called Cartilagineus, or gristly. By which it commeth to passe, that fish alone both conceive with egge, and yet bring forth a living creature. The male sheath-fish or river-whale Silurus, of all others onely is so kind as to keepe and looke to the egges of the female after they be laid, many times for fiftie daies after, for feare they should be devoured of others. Other females hatch in three daies, if the male touch them. The Horne-beakes or Needle-fishes Belonæ, are the onely fishes which have within them so great egges that their wombe cleaveth and openeth when they should lay them: but after that they be discharged of them, it groweth togither and uniteth againe. A thing usuall (as they say) in Blind-wormes. The fish called Mus Marinus, diggeth a gutter or ditch within the ground, and there laieth her egges, and the same she covereth over with earth, and so lets them alone for thirtie daies, then she commeth and openeth the place againe, findeth her egges hatched, and leadeth her little ones to the water.

G H I

Chap. lii.

Of fishes wombes.

THe shell-fishes Erythini and Chanæ, have their wombs or matrices. As for that fish which in Greeke is called Trochos [*i.* the top] is thought to get it selfe with young. The frie of all water creatures, at the first, see not.

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Chap. liii.

Of the exceeding long life of fishes.

IT is not long since that we heard of one fishes memorable example, which prooved the long life of fishes. There is a faire house of retreat and pleasure called Pausilupum, in Campaine not far from Naples; where (as *Annæus Seneca* writeth) there died a fish in the fish-pooles of *Cæsar*, threescore yeeres after that it had been put in by *Pollio Vedius*: and there remained two more of that age and of the same kind, which lived still. And since we are come to make mention of fish-ponds, me thinkes I should doe well to write somewhat more thereof, before I give over this discourse of fishes and water creatures.

L

Chap. liiii.

Of Oyster-pits, and who first devised them.

THe first that invented stewes and pits to keepe oysters in, was *Sergius Orata*, who made such about his house in Bajanum, in the daies of *L. Crassus* that famous oratour, before the Marsians warre. And this the man did not for his belly and to maintain gourmandise, but of a covetous mind for verie gaine. And by this and such wittie devises, hee gathered great revenues: for he it was that invented the hanging baines and pooles to bath in aloft upon the top of an house: and thus when hee had set out his manour house for the better sale, hee would make good merchandise of them, and sell them againe for commoditie and gaine. Hee was the first man that brought the Lucrine Oysters into name and credit for their excellent taste. For so it is,

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that

A that the same kinds of fishes, in one place are better than in another. As the Pikes in the river Tiberis, which are taken betweene the two bridges: the Turbot of Ravenna: the Lamprey in Sicilie: the Elops at Rhodes, and so forth of other sorts of fishes: for I doe not meane heere to make a bill of all the daintie fish to serve the kitchin. There was no talke then of English oisters, when *Orata* brought those of the Lucrine lake into request, for as yet the British coasts were not ours; which indeed have the best oysters of all other. But afterwards it was thought it would quit the cost and pay for the paines, to fetch oysters from the furthest part of Italie, even as farre as Brundisium. And because there should grow no quarrell nor controversie arise, whether these or the former had the more delicate and pleasant taste, it was of late devised that the hungrie oysters (which in the long carriage from Brundise were almost famished) should be fed with the rest
B in the Lucrine lake, and so taste alike. In those very daies, but somwhat before *Orata*, *Licinius Murena* devised pooles and stewes for to keepe and feed other fishes: whose example noble men followed and did the like after them, namely, *Philip* and *Hortensius*. *Lucullus* cut through a mountaine neere unto Naples for this purpose, namely, to let in an arme of the sea into his fish-pools: the doing whereof cost him more money, than the house it selfe which he there had built. Hereupon *Pompey* the Great gave him the name of Romane *Xerxes*, in his long robe. The fishes of that poole of his, after his death, were sold for thirtie hundred thousand Sesterces, *i.* three millions of Sesterces.

Chap. lv.

C ❧ *Who invented the stewes for Lampreys.*

Caius Hirtius was the man by himselfe, that before all others devised a pond to keep Lampreys in. He it was that lent *Cæsar* Dictatour for to furnish his feasts and great suppers during the time of his triumph, 600 Lampreys, to be paid againe by weight and tale in the same kind: for sell them hee would not right out for any money, nor exchaunge them for other commodities. A house he had for his pleasure in the countrey, and but a very little one, yet the ponds and fishes about it sold the house for foure millions of Sesterces. In processe of time folke grew to have a love and cast a fancie to some one severall fish above the rest. For the excellent Oratour *Hortensius* had an house at Bauli, upon the side that lyeth to Baiæ, and a fish-pond to
D it belonging: and he took such an affection to one Lamprey in that poole, that when it was dead (by report) he could not hold but weepe for love of it. Within the same poole belonging to the said house, *Antonia* the wife of *Drusus* (unto whome they fell by inheritance) had so great a liking to another Lamprey, that she could find in her heart to decke it, and to hang a paire of golden earings about the guils thereof. And surely for the noveltie of this straunge sight, and the name that went thereof, many folke had a desire to see Bauli, and for nothing else.

Chap. lvi.

E ❧ *The stewes of Winkles, and who first was the deviser.*

F*Vlvius Hirpinus* was the first inventor of warrens as it were for Winkles, which hee caused to be made within the territorie of *Tarquinij*, a little before the civile warre with *Pompey* the Great. And those had their distinct partitions, for sundrie sorts of them: that the white, which came from the parts about Reate, should be kept apart by themselves: the Illyrian (and those were chiefe for greatnesse) alone by their selves: the Africanes (which were most fruitfull) in one severall: and the Solitanes (simply the best of all the rest) in another. Nay, more than that, he had a devise in his head to feed them fat, namely, with a certaine past made of cuite and wheate meale, and many other such like: to the end forsooth, that the gluttons table might be served plentifully with home-fed and franked great Winkles also. And in time, men grew to take
F such a pride and glorie in this artificiall feat, and namely, in striving who should have the biggest, that in the end one of their shells ordinarily would containe * fourescore measures called Quadrants, if *M. Varro* say true, who is mine author.

* 3 wine gallons and three quarts: for Quadrans is 3 Cyathi, *i.* the 4 part of Sextarius, & Sextarius is a wine pint & a halfe, or 18 ounces.

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Chap. lvii.

Of Land fishes.

Theophraſtus alſo telleth ſtrange wonders of certain kinds of fiſhes, which are about Babylon, where there be many places ſubject to the innundations of Euphrates and other rivers, and wherein the water ſtandeth, after that the rivers are returned within their bankes: in which the fiſh remaine in certaine holes and caves. Some of them (ſaith he) uſe to iſſue forth a land for food and releeſe, going upon their finnes in lieu of feet, and wagging their tailes ever as they go. And if any chaſe them, or come to take them, they will retire backe into their ditches aforeſaid, and there make head and ſtand againſt them. They are headed like to the *ſea Frog, made in other parts as Gudgeons, and guilled in manner of other fiſhes. Moreover, that about Heraclea and Cromna, and namely neare the river Lycus, and in many other quarters of the kindome of Pontus, there is one kind above the reſt that ever haunteth rivers ſides, and the utmoſt edges of the water: making her ſelfe holes under the bankes, and within the land wherein ſhee liveth, yea, even when the bankes are drie, and the rivers gathered into narrow channels. By reaſon whereof they are digged forth of the earth: and as they ſay that find them, alive they bee, as may appeare by moving and ſtirring of their bodies. Neere unto the aboveſaid Heraclea and the river Lycus, when it is fallen and the water ebbe, there be fiſhes breed of the egges and ſpawne left upon the mud and ſand, who in ſeeking for their food, doe ſtirre and pant with their little guils: which they uſe to doe when they want no water, but even then when as the river is full. Which is the reaſon alſo that yeeles live a long time after they be taken foorth of the water. Hee affirmeth moreover, that the egs of fiſhes lying upon the drie land, will come to their maturitie and perfection, and namely thoſe of the Tortoiſes. Alſo, that in the ſame countrey of Pontus, there bee taken fiſhes upon the yce, and gudgeons eſpecially, which ſhew not that they bee alive, but by their ſtirring and leaping when they come to be ſodden in hote caudrons. Hereof may ſome reaſon yet be rendred, although the thing be ſtraunge and wonderfull. The ſame authour avoucheth, that in Paphlagonia there be digged out of the ground certaine land fiſhes that be excellent good meat, and moſt delicate: but they be found in drie places remote from the river, and whither no waters flow, whereby they are forced to make the deeper trenches for to come by them. Himſelfe marvelleth how they ſhould engender without the helpe of moiſture. Howbeit, hee ſuppoſeth that there is a certaine minerall and naturall force therein, ſuch as wee ſee to ſweat out in pits, for as much as diverſe of them have fiſhes found within them. Whatſoever it is, ſurely leſſe wonderfull this is, conſidering how the Moldwarpes live (a creature naturally keeping under the ground) unleſſe haply we would ſay that fiſhes were of the ſame nature that earth wormes be of.

*Or the ſea divell.

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Chap. lviii.

Of the Mice of Nilus.

BVt the innundation of Nilus cleareth all theſe matters: the overflowing whereof is ſo admirable, and ſo farre paſſeth all other wonders, that we may beleeve theſe things. For when as this river falleth and returneth againe into his channell, a man may find upon the mud yong Mice halfe made, proceeding from the generative vertue of water and earth together: having one part of their bodie living alreadie, but the reſt as yet miſhapen, and no better than the verie earth.

L

Chap. lix.

Of the fiſh Anthias, and how hee is taken.

I Thinke it not meet to conceale that, which I perceive many doe beleeve and hold, as touching the fiſh Anthias. We have in our Coſmographie made mention of the Iſlands Cheldoniæ in Aſia, ſituate in a ſea full of rocks under the promontorie of Taurus; among which are found great ſtore of theſe fiſhes: and much fiſhing there is for them, but they are ſuddainely taken, and ever after one ſort. For when the time ſerveth, there goeth forth a fiſher in a ſmall boat or barge, for certaine daies together, a pretie way into the ſea, clad alwaies in apparell of one and the ſame colour, at one houre, and to the ſame place ſtill, where he caſteth forth a bait for the fiſh. But the

M

fiſh

A fish Anthias is so craftie and warie, that whatsoever is throwne forth, hee suspecteth it evermore, that it is a meanes to surprise him. He feareth therfore, and distrusteth: and as he feareth, so is he as warie: untill at length, after much practise & often using this devise of flinging meat into one place, one above the rest groweth so hardie and bold, as to bite at it, for now by this time hee is growne acquainted with the manner thereof, and secure. The fisher takes good marke of this one fish, making sure reckoning that he will bring more thither, and be the means that he shall speed his hand in the end. And that is no hard matter for him to doe, because for certaine daies together, that fish and none but he, dare adventure to come alone unto the bait. At length this hardie captaine meets with some other companions, and by little and little he commeth every day better accompanied than other, untill in the end he brings with him infinite troupes and squadrons
B together, so as now the eldest of them all (as craftie as they bee) being so well used to know the fisher, that they will snatch meat out of his hands. Then he espying his time, putteth forth an hook with the bait, somewhat beyond his fingers ends, flieth and seizeth upon them more truly, then catcheth them, and speedily with a quick and nimble hand whippeth them out of the water within the shaddow of the ship, for feare least the rest should perceive, and giveth them one after another to his companion within; who ever as they be snatcht up, latcheth them in a course twillie or covering, and keepes them sure ynough from either strugling or squeaking, that they should not drive the rest away. The speciall thing that helpeth this game and pretie sport, is to know the captaine from the rest, who brought his fellowes to this feast, and to take heed in any hand that he be not twitcht up and caught. And therefore the fisher spareth him, that he may flie and goe
C to some other flocke, for to traine them to the like banket. Thus you see the manner of fishing for these Anthiæ. Now it is reported moreover, that one fisher upon a time (of spightfull mind to doe his fellow a shrewd turne) laid wait for the said captaine fish, the leader of the rest (for he was verie well knowne from all others,) and so caught him: but when the foresaid fisher espied him in the market to be sold, and knew it was he: taking himselfe misused & wronged, brought his action of the case against the other, and sued him for the dammage, and in the end condemned him. *Mutianus* saith moreover, That the plaintife was awarded to have for recompence, ten pounds of the defendant. The same fishes, if they chaunce to see one of their fellows caught with an hooke, by report, with their sharpe finnes which they have upon their backe like sawes, cut the line in twaine: for he that hangeth at it, will of purpose stretch it out streight, that it may bee cut asun-
D der more easily. But the Sargots have another tricke for that: for he that finds himselfe taken, fretteth the line in twaine, whereto the hooke hangeth, against a hard rocke.

Chap. lx.

Of the sea fishes called Starres.

OVer and besides all these, I see that some deep clearks and great Philosophers have made a wonder at the Starre in the sea. And verily it is no other than a very little fish, made like a starre (as we see it painted.) A soft flesh it hath within: but without-forth an hard brawnie skin. Men say it is so fierie hote, that whatsoever it toucheth in the sea, it burneth: and looke what
E meat it receiveth, it makes a hand with it, and digesteth it presently. What proose there is hereof, and how men should come to the knowledge and experience of thus much, I cannot readily set downe. I would thinke that rather more memorable and worthie to bee recorded, whereof wee have daily experience.

Chap. lxi.

Of the Dactyli, and their wonderfull qualities.

OF the shell fish kind are the Dactyli, so called of the likenesse of mens nailes, which they resemble. The nature of this fish is to shine by themselves in the dark night, when all other
F light is taken away. The more moisture they have within them, the more light they give: insomuch as they shine in mens mouths as they be chawing of them: they shine in their hands: upon the floore on their garments, if any drops of their fattie liquor chaunce to fall by: so as it appeareth, that doubtlesse it is the very juice and humour of the fish which is of that nature, which we doe so wonder at in the whole bodie.

G

CHAP. LXII.

Of the enmitie and amitie which is betweene fishes and other water beasts.

SVch concord there is in some, and such discord in others, as it is wonderfull. The Mullet and the sea-Pike hate one another, and bee ever at deadly warre: likewise, the Congre and the Lamprey: insomuch as they gnaw off one anothers taile. The Lobster is so afraid of the Polype or Pourcuttell, that if he spie him neere, he evermore dieth for very woe. The Lobsters are readie to scratch and teare the *Congre: the Congres againe doe as much for the Polype. *Nigidius* writeth, That the sea-Pike biteth off the Mullets taile: and yet the same fishes in certaine H set months are good friends, and agree well ynough. Hee saith moreover, that those Mullets live all, notwithstanding their tailes be so curtold. On the other side, there be examples of freindship among fishes, besides those, of whose societie and fellowship I have alreadie written: and namely, betweene the great Whale Balæna, and the little Musculus. For whereas the Whale aforesaid hath no use of his eies (by reason of the heavie weight of his eie-browes that cover them) the other swimmeth before him, serveth him in steed of eies and lights, to shew when hee is neere the shelves and shallowes, wherein he may be soone grounded, so big and huge he is.

*Locustæ Congrum, ex Arist. lib. 8. cap. 2. hister. animal.

Thus much of Fish. Hence forward will we write of Foules.

I

THE TENTH BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

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CHAP. I.

The nature of Birds and Foules.

IT followeth now that wee should discourse of the nature of Foules. And first to begin with Ostriches. They are the greatest of all other foules, and in manner of the nature of foure footed beasts: (namely, those in Affricke and Æthyopia) for higher they bee than a man sitting on horsebacke is from the ground: and as they bee taller than the man, so are they swifter on foot than the very horse. For to this end onely hath Nature given them wings, even to helpe and set them forward in their running: for otherwise, neither flie they in the aire, ne yet so much as rise and mount from the ground. Cloven houfes they have like red deere, and with them they fight; for good they be to catch up stones withall, & with their legs they whurle them back as they run away, against those that chase them. A wonder this is in their nature, that whatsoever they eat (and great devourers they bee of all things, without difference and choise) they concoct and digest it. But the veriest fooles they be of all others. For as high as the rest of their bodie is, yet if they thrust their head and necke once into any shrub or bush, and get it hidden, they thinke M then they are safe ynough, and that no man seeth them. Now two things they doe affoord, in recompence of mens paines that they take in hunting and chasing them: to wit, their egs, which are so big, that some use them for vessels in the house: and their feathers so faire, that they serve for pennaches to adorne and set out the crests and morions of souldiors in the warres.

L

CHAP.

A

Chap. II.

Of the Phœnix.

THe birds of Æthyopia and India, are for the moſt part of diverſe colours, and ſuch as a man is hardly able to decipher and deſcribe. But the Phœnix of Arabia paſſeth all others. Howbeit, I cannot tell what to make of him: and firſt of all, whether it be a tale or no, that there is never but one of them in the whole world, and the ſame not commonly ſeen. By report he is as big as an Ægle: for colour, as yellow & bright as gold; (namely, all about the neck;) the reſt of the bodie a deepered purple: the taile azure blew, intermingled with feathers among, of
B roſe cornation colour: and the head bravely adorned with a creſt and pennache finely wrought; having a tuft and plume thereupon, right faire and goodly to be ſeene. *Manilius*, the noble Romane Senatour, right excellently well ſeene in the beſt kind of learning and litterature, and yet never taught by any, was the firſt man of the long Robe, who wrote of this bird at large, & moſt exquiſitely. Hee reporteth, that never man was knowne to ſee him feeding: that in Arabia hee is held a ſacred bird, dedicated unto the Sunne: that hee liveth 660 yeares: and when hee groweth old, and begins to decay, he builds himſelfe a neſt with the twigs and branches of the Canell or Cinamon, and Frankincenſe trees: and when he hath filled it with all ſort of ſweet Aromaticall
C ſpices, yeeldeth up his life thereupon. He ſaith moreover, that of his bones & marrow there breedeth at firſt as it were a little worme: which afterwards proveth to bee a pretie bird. And the firſt thing that this yong new Fhœnix doth, is to performe the obſequies of the former Phœnix late deceaſed: to tranſlate and carie away his whole neſt into the citie of the Sunne neere Panchæa, and to beſtow it full devoutly there upon the altar. The ſame *Manilius* affirmeth, that the revolution of the great yeare ſo much ſpoken of, agreeth juſt with the life of this bird: in which yeare the ſtarres returne againe to their firſt points, and give ſignification of times and ſeaſons, as at the beginning: and withall, that this yeare ſhould begin at high noone, that very day when the Sunne entreth the ſigne *Aries*. And by his ſaying, the yeare of that revolution was by him ſhewed, when *P. Licinius* and *M. Cornelius* were Conſuls. *Cornelius Valerianus* writeth, That whiles *Q. Plautius* and *Sex. Papinius* were Conſuls, the Phœnix flew into Ægypt. Brought he was hither alſo to Rome in the time that *Claudius Cæſar* was Cenſor, to wit, in the eight hundred yeare from
D the foundation of Rome: and ſhewed openly to bee ſeene in a full hall and generall aſſembly of the people, as appeareth upon the publicke records: howbeit, no man ever made any doubt, but he was a counterfeit Phœnix, and no better.

Chap. III.

Of Ægles.

OF all the birds which we know, the Ægles carie the price both for honour and ſtrength. Six kinds there be of them. The firſt, named of the Greekes **Melænaetos*, and in Latine, *Valeria*: the leaſt it is of all others, and ſtrongeſt withall, blacke alſo of colour: In all the whole
E race of the Ægles, ſhe alone nouriſheth her young birds: for the reſt (as wee ſhall hereafter declare) doe beat them away: ſhe onely crieth not, nor keepeth a grumbling and huzzing as others doe: and evermore converſeth upon the mountaines. Of the ſecond ſort is **Pygargus*. It keepeth about townes and plaines, and hath a whitiſh taile. The third is *Morphnos*, which *Homer* calleth alſo *Percnos*: ſome name it *Plancus* and **Anataria*: and ſhe is for bigneſſe and ſtrength, of a ſecond degree: loving to live about lakes and meeres. Ladie *Phœmonœ*, who was ſuppoſed & ſaid to be the daughter of *Apollo*, hath reported, that this Ægle is toothed: otherwiſe mute, as not having any tongue: alſo, that of all others ſhe is the blackeſt, and hath the longeſt taile. With her accordeth *Boethus* likewiſe. Subtile ſhee is and wittie: for when ſhee hath ſeazed upon Tortoiſes, and caught them up with her tallons, ſhe throweth them downe from aloft to breake their ſhels. And
F it was the fortune of the Poët *Æſchylus* to die by ſuch a meanes. For when hee was foretold by wiſards out of their learning, that it was his deſtinie to die upon ſuch a day by ſome thing falling upon his head: hee thinking to prevent that, got him forth that day into a great open plaine, far from houſe or tree, preſuming upon the ſecuritie of the cleare and open skie. Howbeit, an Ægle let fall a Tortoiſe, which light upon his head, daſht out his braines, and laid him aſleepe for ever.

* The Saker as ſome thinke.

* A kind of Faulcon.

* For killing of dackes and mallards.

Of

*The mountaine Storke.

Of the fourth kind is *Percnopterus*, the same that **Oripelargus*, fashioned like to a Geire or Vulture: it hath least wings, a bodie bigger than the rest: but a very coward, fearefull and of a bastard and craven kind, for a raven will beat her. Besides, she hath a greedie and hungrie worm alwaies in her gorge and craw, and never is content, but whining and grumbling. Of all Ægles she onely carieth away with her the dead prey, & feedeth thereupon in the aire: whereas others have no sooner killed, but they prey over them in the place. This bastard buzzard kind maketh that the fifth, (which is the roiall Ægle) & is called in Greek *Gnesios*, as one would say, true and kindly, as descended from the gentle and right airie of Ægles. This Ægle roiall, is of a middle bignesse, and of a reddish colour, a rare bird to bee seene. There remaineth now the sixt and last sort, and that is **Haliartos*. This Ægle hath the quickest and cleerest eie of all others, soaring & mounting on high: when she spieth a fish in the sea, downe she comes with a power, plungeth into the water, and breaking the force thereof with her breast, quickly she catcheth up the fish, and is gone. That Ægle which wee named in the third place, haunteth lakes, fennes, and standing waters for to prey upon water-foule: who, to shift from her, are driven otherwhile to dive under the water: but she presseth so hard upon them, that they be wearied and astonied in the end, and then shee catcheth them up, and carieth them away. A worthie sport it is to see the manner of their skuffling: whiles the fillie river-bird maketh means to gaine the banke side for refuge, (especially if it be wel growne with thicke reeds) and the Ægle for her part drives her from thence with the clap and stroke of the wing: whiles, I say, as the Egle striketh, and therewith plungeth her selfe downe into the water, the poore foule that swimmeth underneath, seeing the shaddow of the Ægle hovering about the banke side, riseth up againe in another place, far ynough off from the Ægle, & where she imagined that she should be least looked for. Which is the cause that these wild-foule of the water, commonly swim in flockes. For when they are many together, they are not much troubled and annoied, by reason that with fluttering their pinnions, with dashing and flapping the water with their wings, they dazle the sight of their enemie. Oftentimes also the very Ægles, not able to weld the prey that they have seazed upon, are together with it drawne under the water, and so drowned. Now as touching the *Haliartos*, or the Osprey, she onely before that her little ones bee feathered, will beat and strike them with her wings, and thereby force them to looke full against the Sunne beames. Now, if shee see any one of them to winke, or their eies to water at the raies of the Sunne, shee turnes it with the head forward out of the nest, as a bastard and not right, nor none of hers: but bringeth up and cherisheth that, whose eie will abide the light of the Sunne as she looketh directly upon him. Moreover, these Orfraies or Ospreies are not thought to be a severall kind of Ægles by themselves, but to be mungrels, and engendred of divers sorts. And their young Ospraies bee counted a kind of Ossifragi: from them come the lesser Geires, they againe breed the greater, which engender not at all. Some reckon yet another kind of Ægle, which they call Barbatæ; and the Tuscanes, Ossifrage.

*Some take it for the Ospray.

G

H

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K

But of the six kinds before rehearsed; the three first, and the fift, have in their nest a stone found named **Æëtites*, which some call Gagates, and it is therein engendred. This stone is medicinable and singular good for many diseases: and if it bee put into the fire, it will never a whit consume. Now this stone (as they say) is also with child. For if a man shake it, he shall heare another to rattle and sound within, as it were in the bellie or wombe of it. But that vertue medicinable above-said, is not in these stones, if they be not stollen out of the very nest from the airie. Build they doe and make their nests upon rockes and trees. Three egs commonly they lay: whereof two onely they use to hatch: howbeit, sometimes they have been seene to have three young ones. But lightly one of them they turne out of the nest, because they would not bee troubled with feeding and nourishing it. And verily, Nature hath well provided, that at such a time the old Ægles should not be able to purvey sufficient for meat: for otherwise, if they should reare their birds, they were ynough to destroy the young breed of deere and wild beasts in a whole countrey, that there should be no venison nor game at all for gentlemen. Moreover, by the same providence of Nature, all that while their tallons or clees hooke and turne inward very much: also for very hunger their feathers waxe grey and white, so as they have good cause not to abide their young. But when they have cast them off, the Ossifrages which are neere of kin unto them, are readie to take them and bring them up with their owne birds. But the old Ægles their dammes, not content therewith, persecute them still when they are growne to bee big ones, beating and chasing them away farre off, as their very concurrents, and who would entercommune with them, and rob them of their

*The precious stone Æetites.

E

M

A their prey. And were it not so, certainely one airie of Ægles needeth the reach of a whole countrey to furnish them with venison sufficient to their full. They have therefore their severall coasts and walkes, and without those limits and usuall haunts they raven not. When they have seazed of any prey, they carie it not away presently, but first lay it downe, peruse and peise the weight thereof, and then away they flie with it amaine, but not before. They die not for age, nor upon any sickenesse, but of very famine, by reason that the upper beake of their bill is so farre overgrowne, and turneth inward so much, that they are not able to open it for to feed themselves. Their manner is ordinarily to go to their businesse (namely, to flie and seek their prey) after noon. For all the forenoone they are perched up, and be idle and doe nothing, waiting the time when men be not stirring abroad, but about their markets within the cities and townes, or otherwise busie in their civile affaires. The quils or feathers of Ægles laid among those of other foules, will devour and
B consume them. Men say, that of all flying foules the Ægle onely is not smitten nor killed with lightening: whereupon folke are wont to say, that she serveth *Iupiter* in place of his squire or armour-bearer.

Chap. iiii.

When the Ægles began to be the ensignes and standards of Romane legions: and what foules they be that war with Ægles.

C*Aius Marius* in his second Consulship ordained, that the Legions of Romane souldiors onely, should have the Ægle for their standard, and no other ensigne. For beforetime the Ægle marched formost indeed, but in a ranke of foure others, to wit, of *Wolves, Minotaures, Horses, and Bores, which were borne each one before their owne severall squadrons and companies. Not many yeares past, the standard of the Ægle alone began to be advaunced into the field to battell: and the rest of the ensignes were left behind in the campe. But *Marius* rejected them altogether, and had no use of them at all. And ever since this is observed ordinarily, that there was no standing campe or leaguer wintered at any time, without a paire of Ægle standards. *Names of Ensignes.

Of Ægles, the first and second kind prey not onely upon the lesse foure footed beasts, but also maintaine battell with the red Deere, even the Stag and the Hind. The manner of the Ægle is, after she hath wallowed in the dust and gathered a deale thereof among her feathers, to settle
D upon the hornes of the Deere beforesaid, to shake the same off into his eies, to flap and beat him about the face with his wings, untill she drive him among the rockes, and there force him to fall downe from thence headlong, and so to breake his necke. Moreover, the Ægle hath not ynough of this one enemie, but she must warre with the Dragon also: howbeit, the fight betweene them is more sharpe and eager: yea, and putteth her to much more daunger, albeit otherwhiles they combate in the aire. The Dragon of a naturall spight and greedie desire to doe mischeefe to the Ægle, watcheth evermore where the airie is, for to destroy the egges, and so the race of the Ægles. The Ægle againe, whersoever she can set an eie upon him, catcheth him up and carieth him away: but the serpent with his taile windeth about his wings, and so entangleth and tieth them fast, that downe they fall both of them together.

E

Chap. v.

A strange and wonderfull accident of an Ægle.

THere happened a marvellous example about the citie Sestos, of an Ægle: for which in those parts there goeth a great name of an Ægle, and highly is she honored there. A young maiden had brought up a young Ægle by hand: the Ægle againe to requite her kindnesse, would first when she was but little, flie abroad a birding, and ever bring part of that she had gotten unto her said nurse. In processe of time, being growne bigger and stronger, would set upon wild beasts also in the forrest, and furnish her yong mistresse continually with store of venison. At
F length it fortuned that the damosell died: and when her funerall fire was set a burning, the Ægle flew into the mids of it, and there was consumed into ashes with the corps of the said virgine. For which cause, and in memoriall hereof, the inhabitants of Sestos, and the parts there adjoining, erected in that very place a stately monument, such as they call Heroüm, dedicated in the name of *Iupiter* and the virgin, for that the Ægle is a bird consecrated unto that god.

Chap.

Chap. vi.

Of Vultures, or Geires.

THe blacke Vultures are the beſt of that kind. No man ever could meet with their neſts: whereupon ſome have thought (but untruly) that they flie unto us out of another world, even from the Antipodes, who are oppoſite unto us. But the truth is, they build in the higheſt rockes that they can find: and their young ones have many times been ſeene, two togither and no more. *Vmbricius*, who was counted the moſt skilfull Aruſpex of our age, ſaith, That uſually they lay three egges; whereof they take one of them to ſacre and bleſſe (as it were) the other egges and the neſt: and then ſoone after they caſt it away. Alſo that the manner of the Geires is to fore-ſee a carnage, and to flie two or three dayes before unto the place where there will be any carions or dead carkaſſes.

Chap. vii.

Of the Sangualis, and Immuſſulus.

AS touching the Sangualis and the Immuſſulus, our Augurs at Rome are in a great doubt and make much queſtion, what they ſhould be. Some are of opinion, that the Immuſſulus is the chicke of the Vulture: and the Sangualis, likewiſe the young Oſſifraga. *Maſſurius* ſaith, that the Sangualis and Oſſifraga be both one: and as for the Immuſſulus, it is the young bird of the Ægle, before it come to have a white taile. Some have affirmed confidently, that after the death of *Mutius* the Augure, there was never any of them ſeene at Rome: but I rather am of this mind (and me thinks it ſoundeth more like a truth, ſuch is the ſupine negligence and careleſneſſe of men in all things elſe) that no marveile it is if they know them not, although they ſee them.

Chap. viii.

Of Hawkes.

WEe find in Faulconrie, ſixteen kinds of Hawkes or foules that prey. Of which, the Circos (which is lame and limpeth of one legge) was held in auncient time for the luckieſt Augurie, in caſe of weddings, and of cattell. Alſo the Hawke called Triorches (of three ſtones or cullions that it hath) is reputed a bird of good preſage: and in Augurie, lady *Phemonoe* hath given unto it the honour of the beſt ſimply and moſt fortunate. The Romanes call it Buteo, *i.* a Buzzard. And there is a worſhipfull houſe & familie in Rome of that ſurname; by occaſion that a Buzzard ſetled and perched upon the Admirall ſhip where *Fabius* himſelfe (one of that houſe) was, preſaging a boon-voyage and happie ſucceſſe, according as it fell out indeed. As for the Hawke which the Greekes name Æſalo, *i.* the Merlin, ſhee alone is ever ſeene at all times of the yeere: whereas the reſt are gone when winter commeth. In generall, Hawkes are divided into ſundrie and diſtinct kinds, by their greedineſſe more or leſſe, and their manner in chaſe and preying: for ſome there be that never ſeize on a foule but upon the ground: others againe never aſſaile any birds, but when they ſpie them flying about ſome tree. There be alſo, that take a bird perched and ſitting on high: and yee ſhall have of them, that overtake them as they flie in the wide and open aire. The doves therefore and pigeons, knowing the daunger of flying aloft, ſo ſoone as they eſpie them, either light upon the ground and ſettle, or elſe flie neere the earth; and thus helpe themſelves in taking a contrarie courſe to the hawkes nature, for to avoid their talons. There is in the Ocean of Affricke an Iland called Cerne, wherein all the hawks of the coaſts of the Maſſeſyli, build upon the very ground, and there breed: and being ſo accuſtomed to thoſe countries, ye ſhall not find an airie of them elſewhere. In a part of Thracia, ſomwhat higher in the countrey beyond Amphipolis, men and hawkes joine in fellowſhip and catch birds togither: for the men drive the woods, beat the buſhes and reeds to ſpring the foule; then the hawkes flying over their heads, ſeize upon them, and either ſtrike or bear them to the ground fit for their hands. On the other ſide, the hawkers and foulers when they have caught the foule, divide the bootie with the hawkes: and by report, they let ſuch birds flie againe at libertie aloft into

A into the aire, and then are the hawkes readie to catch them for themſelves. Moreover, when the time is of hawking, they will by their manner of crie and flying together, give ſigne to the faulconers that there is good game abroad, and ſo draw them forth to hawking for to take the opportunitie. It is ſaid, that the wolves doe the like, about the lake Mœotis: for unleſſe they may have their part with the fiſhers, they will rend and teare their nets, when they find them ſtretched forth. Faulcons or Hawkes willingly eat not the heart of any bird. There is an hawke called Cymindis, which preyeth in the night: ſildome is ſhe ſeene in the woods, and by day-light ſeeth little or nothing. There is deadly warre betweene it and the Ægle; and oftentimes they be both taken, entangled one with the other.

B

Chap. IX.

Of the Cuckow, which uſually is killed by birds of her owne kind.

AS touching the Cuckow, it ſeemeth that he commeth of ſome hawke chaunged into his ſhape at one certaine time of the yeere: for then thoſe other hawkes are not to be ſeene, unleſſe ſome very few daies. Hee ſheweth himſelfe alſo but for a ſmall ſeaſon in ſummer time, and afterwards appeareth no more. It is the only hawke that hath no talons hooked downward, neither is he headed as other hawkes, nor like unto them, but in colour: and for bill, he reſembleth rather the dove. Nay more than that, the hawke will prey upon him and devour him, if haply they be ſeene both togither: and it is the onely bird of all other that is killed by thoſe of
C the owne kind. He altereth his voice alſo. In the ſpring, he commeth abroad, and by the beginning of the dog-daies, hideth himſelfe. Theſe lay alwaies in other birds neſts, and moſt of all in the Stock-doves, commonly one egge and no more (which no other bird doth beſides) and ſeldome twaine. The reaſon why they would have other birds to ſit upon their egges and hatch them, is becauſe they know how all birds hate them: for even the verie little birds are readie to warre with them: for feare therefore that the whole race of them ſhould be utterly deſtroyed by the furie of others of the ſame kind, they make no neſt of their owne (being otherwiſe timorous and fearfull naturally of themſelves) and ſo are forced by this craftie ſhift to avoid the daunger. The Titling therefore that ſitteth, being thus deceived, hatcheth the egge and bringeth up the chicke of another bird. And this young Cuckow beeing greedie by kind, beguiling the other
D young birds and intercepting the meat from them, groweth hereby fat and faire-liking: whereby it commeth into ſpeciall grace and favor with the dam of the reſt, and nource to it. She joieth to ſee ſo goodly a bird toward: and wonders at her ſelfe that ſhe hath hatched and reared ſo trim a chicke. The reſt, which are her owne indeed, ſhee ſets no ſtore by, as if they were changelings: but in regard of that one, counteth them all baſtards and misbegotten: yea, and ſuffereth them to be eaten and devoured of the other even before her face: and this ſhe doth ſo long, untill the young cuckow being once fledge and readie to flie abroad, is ſo bold as to ſeize upon the old Titling, and to eat her up that hatched her. And by that time there is not another bird againe for goodneſſe and ſweetneſſe of meat, comparable to the young Cuckow.

E

Chap. X.

Of Gleedes, Kites, or Puttocks.

THe Kites or Gleeds are of the ſame kind of Hawkes or birds of prey, onely they bee greater. This hath been noted & obſerved in them: that being a moſt ravenous bird, and evermore hungrie, yet were they never knowne to ſnatch any viands ordained at funerall feaſts for the dead, out of the platters; ne yet the fleſh of beaſts ſlaine in ſacrifice, from off the altar of *Iupiter* in Olympia. Nay, it was never ſeene that a Puttocke would catch fleſh out of their hands that ſerved at ſuch feaſts: but if it did, a great preſage it was of ſome doleful & heavie misfortune which ſhould fall upon the whole towne, that made theſe ſolemn ſacrifices. Theſe Gleeds or Put-
F tocks, ſeeme by the winding and turning of their tailes to & fro as they flie, to have taught pilots the skil of ſteering, and the uſe of the helme. See how Nature hath ſhewed that in the aire above, which is ſo neceſſary in the deep ſea beneath! Kites likewiſe are not commonly ſeen abroad in the dead time of winter: yet go they not away for all together before the Swallowes. Moreover, it is ſaid, that after the Sunſteeds, alwaies in ſummer time, they be trobled with the gout in their feet.

Chap.

Chap. xi.

Of a generall division of Foules.

THe first and principall difference and distinction in birds, is taken from their feet: for they have either hooked tallons, as Hawkes; or round long clawes, as Hennes; or else they be broad, flat, and whole-footed, as Geese and all the sort in manner of water-foule. Those that have hooked tallons, for the most part feed upon flesh and nothing else.

Chap. xii.

Of unluckie birds, and namely, the Crow, Raven, and Scritch-owle.

THe Crow liveth not altogither of carion, for the Rooke eateth of other food. The Crowes and Rookes have a cast by themselves: for when they meet with a hard nut which they are not able to cracke, nor breake their shales with their bills, they will flie aloft and fling it against some rock or tyle-house once or twice, yea & many times togither, untill it be so crushed and bruised, that they may easily breake it quite, and then they eat up the kernell. These birds all of them keepe much pratling and are full of chat; which most men take for an unluckie signe and presage of ill fortune: although some there be who thinke otherwise, that it is a good bird, and highly esteeme of her. Observed it is, that from the going down or occultation of the starre Arcturus, unto the comming of the Swallow, the Crow is not to be seene else-where but about the groves and temples of *Minerva* (and that is but very sildome) and namely, neere to Athens. Moreover, this bird only feedeth her young cadowes for a good while after they are able to flie. Shee is most unluckie at breeding time and cooving, that is to say, after the Sunsteed in summer. All other birds, which be as it were of the same race, drive their young ones out of the nest when they be once fledge, and put them to it, forcing them to flie abroad: like as the Ravens also, who likewise feeed not on flesh only: and they likewise when they perceive their young once to be strong, chase and drive them away farre off. Therefore about little villages and hamlets, there commonly be not above two paire of them at once. And about Cranon verily in Thessalie, yee shall never see above one paire of them: for the old ones give place unto the yong, and fly away. There are some divers and different properties in this bird, and that before-named: for the Ravens engender before the Sunsteed, and for sixtie daies are somwhat ill at ease, and troubled with a kind of drought or thirstines especially, untill such time as the figges be ripe in Autumne: and then from that time forward, the Crow beginneth to be diseased and sick. Ravens for the most part lay five egges: and the common sort are of opinion, that they conceive and engender at the bill, or lay their egges by it: and therefore if women great with child chaunce to eat a Ravens egge, they shall be delivered of their children at the mouth: and generally shall have hard labour, if such an egge be but brought into the house where such great bellied women be. *Aristotle* denieth this and saith, that the Ravens conceive by the mouth, no more than the Ægyptian Ibis: and he affirmeth, that it is nothing else but a wantonnesse which they have in billing and kissing one another, which we see them to doe oftentimes; like as the Dowes and Pigeons also. The Ravens of all other foules, seeme to have a knowledge of their owne significations in presages and fore-tokens: for when the mercenarie hired souldiers of Media were all massacred under a colour of entertaintment and hospitalitie, the Ravens flew all away out of Peloponnesus and the region of Attica. The worst token of ill luck that they give, is when in their crying they seeme to swallow in their voice as though they were choked.

The night-birds have also crooked tallons, as the Owles, Scritch-owle, and Howlets. All these see but badly in the day time. The Scritch-owle betokeneth alwaies some heavie newes, and is most execrable and accursed, and namely, in the presages of publicke affaires: he keepeth ever in deserts: and loveth not onely such unpeopled places, but also that are horrible and hard of accesse. In summe, he is the verie monster of the night, neither crying nor singing out cleere, but uttering a certaine heavie grone of dolefull moning. And therefore if he be seene to flie either within cities, or otherwise abroad in any place, it is not for good, but prognosticateth some fearfull misfortune. Howbeit I my selfe know, that hee hath sitten upon many houses of privat men,

and

A and yet no deadly accident followed thereupon. He never flieth directly at eaſe, as he would himſelfe, but evermore ſidelong and byas, as if he were carried away with the wind or ſomewhat elſe. There fortuned one of them to enter the very ſecret ſanctuarie within the Capitoll at Rome, in that yeere when as *Sext. Papellio Iſter* and *L. Pedanius* were Conſuls: whereupon at the Nones of March, the citie of Rome that yeere made generall proceſſions to appeaſe the wrath of the gods, and was ſolemnly purged by ſacrifices.

Chap. xiii.

Of the bird Incendiaria.

B THis fire-bird Incendiaria is likewiſe unluckie, and as our Chronicles and Annales do witneſſe, in regard of her the citie of Rome many a time hath made ſolemne ſupplications to pacifie the gods, and to avert their diſpleaſure, by her portended: as for example, when *L. Caſſius* and *C. Marius* were Conſuls: in that very yeere when by occaſion of a Scrith-owle ſeene, the citie likewiſe was purged by ſacrifice, as is aboveſaid, and the people fell to their prayers and devotions. But what bird this ſhould be, neither doe I know, nor yet find in any writer. Some give this interpretation of Incendiaria, to be any bird whatſoever, which hath been ſeene carrying fire either from altar or chappell of the gods. Others call this bird Spinturnix. But hitherto I have not met with the man who would ſay directly unto me, That he knew what bird this ſhould be.

Chap. xiiii.

C

Of the bird Clivina, or Cluina.

LIkewiſe the bird named in old time Clivina, or Cluina, which ſome call Clamatoria, and which *Labeo* deſcribeth by the name of Prohibitoria, I ſee is as little knowne as the other. *Nigidius* alſo maketh mention of a bird called Subis, which uſeth to ſquaſh Ægles egges.

Chap. xv.

Of other unknowne birds.

D IN the Augures bookes which the Tuſcanes have compoſed, there be many birds deſcribed and ſet out in their colours, which have not been ſeene ſome hundreds of yeeres paſt. And I muſe and marvaile much, that they ſhould be now extinct and the race of them cleane gone, conſidering that the kind of thoſe foules is not loſt, but continueth ſtill in great abundance, which men eat daily at their tables, and conſume ſo ordinarily.

Chap. xvi.

Of night flying birds.

E OF ſtraungers and forrein writers, *Hylas* is thought to have written beſt and moſt learnedly as touching Auguries and the nature of Birds. He reporteth in his booke, that the Howlet, Scritch-owle, the Spight that pecketh holes in trees, the Trogone, and the Chough or Crow, when they be hatched come forth of their ſhells with their tailes firſt: and that by reaſon of their heads ſo heavie, the egges are turned with the wrong end downward, and ſo the hinder part of the bodie lieth next under the hen or the dam, to ſit upon and cheriſh with the heat of her bodie.

Chap. xvii.

Of Owles, or Howlets.

F IT is a pretie ſight to ſee the wit and dexteritie of theſe Howlets, when they fight with other birds: for when they are overlaid and beſet with a multitude of them, they lie upon their backs and with their feet make ſhift to reſiſt them: for gathering themſelves into a narrow compaſſe, there is nothing in a manner to be ſeene of them, ſave only their bill and talons, and thoſe cover the whole bodie. The Faulcon (by a ſecret inſtinct and ſocietie of nature) ſeeing the poor Howlet thus diſtreſſed, commeth to ſuccour and taketh equall part with him, and ſo endeth the

fray. *Nigidius* writeth, that Howlets for sixtie daies in wintet, keepe close and remaine in covert, G
and that they chaunge their voice into nine tunes.

Chap. xviii.

Of the Spight, or Woodpecker.

SOme little birds there are also that have hooked clees, as the Spights, which are knowne by the name of Martius, and be therefore called Pici Martij. These are of great account in Auspices, and presage good. They that job and pecke holes in trees, and will climbe upright like cats, are of this race. As for them, they will rampe up with their bellies to the tree, bending backward: and when they peck with their bills against the barke, they know by the sound therof H
that there be wormes within for them to feed upon. These birds alone of all others feed and nourish their young ones in cranies and chinkes of trees. And if it chance that a shepheard or some such doe pin or wedge up their holes, it is thought commonly that they will unstop the same againe by the meanes of a certaine hearb, which no sooner they touch the stopple with, but it will out. *Trebius* writeth, that let a man drive a spike and great naile, or else a wedge and pin of wood, as hard as ever he will into that tree wherein this bird hath a nest, and incontinently as she percheth and setleth upon the tree, it will presently flie out with such a force, that the tree will give a cracke again therewith. Throughout all Latium, these birds beare the name for effectuall
* *i. Picus.* signification of good or bad fortune, by reason of that * King or Prince who gave them that name. And one presage of theirs above the rest, I cannot passe over: It fortuned that one of them light upon the head of *L. Tubero* L. chiefe Iustice of the citie of Rome, as he was sitting upon I
the judgement seat in the open face of the court ministring justice, and there rested so gently, that it suffered him to take it with his hand. The Soothsayer beeing asked his advise in this case, answered out of his booke, That if the bird were let goe, it would portend the ruine and overthrow of the whole state and Empire; but if it were killed, it denounced the death of the foresaid Pretour or L. chiefe Iustice then in place. But the Pretour *Tubero* immediatly upon this answer, plucked the bird in peeces. It was not long after, but the presage of this bird took effect indeed, and was fulfilled in his person. Moreover, there be of this kind many that feed upon mast, acorns, nuts, apples, and such like fruits: but they be such as live in manner upon flesh onely. And yet I must except the Kite, for that propertie in him, is noted to be in all Augurie an unluckie signe and presage of some heavie and deadly misfortune. K

Chap. xix.

Of birds that have hooked talons, and round long clawes like fingers.

WHat foules soever have crooked clawes, sort not together in flockes, but prey ech one apart for it selfe. And lightly all such flie aloft, unlesse it be the night-birds beforesaid; and the greater sort especially. They are all of them great winged, little bodied, and heavie in their gate upon the ground. Seldome or never they sit and perch upon a rock: for why? their nailes bowing and hooking inward, will not give them leave. It remaineth now that we speak L
of the second kind and rankes of birds; which also is divided into two sorts: to wit, Oscines that sing, and Alites that flie onely. For the singing of the one, and the bignes of the other, maketh the difference and distinction betweene them. These therefore that are greater bodied, wee will by order treat first of.

Chap. xx.

Of Peacockes: and who was the first that killed them for the table.

THe Peacocke farre surpasseth all the rest in this kind, as well for beautie, as also for the wit and understanding that he hath; but principally for the pride and glorie that hee taketh in M
himselfe. For perceiving at any time that he is praised and well liked, he spreadeth his taile round, shewing and setting out his colours to the most, which shine againe like precious stones: and namely, when he turneth them against the sunne (as his manner is) for so hee giveth them a more radiant and glittering lustre. And for the same purpose also with his taile, representing fish

shells,

A ſhells, hee giveth a certaine ſhadow to the reſt of his feathers, which ſeeme the brighter when they be a little ſhadowed: and withall he ſetteth all thoſe eyes of his feathers togither in a ranke, and gathereth them round, knowing full well, that he is the more looked on for them; and therin he taketh no ſmall joy and pleaſure. On the other ſide, when he hath loſt this taile (which uſually he moulteth everie yeere when trees ſhed their leaves) untill ſuch time that trees bloſſome new and his taile be growne againe, he hath no delight to come abroad, but as if hee were aſhamed or mourned, ſeeketh corners to hide himſelfe in. The Peacocke ordinarily liveth 25 yeeres. At three yeers of age he beginneth to put forth that varietie of colours in his feathers. Authors who have written of him, ſay that he is not onely a proud and vainglorious creature, but alſo as malicious and ſpightfull, as the Gooſe is baſhfull and modeſt: for ſo have ſome of them obſerved
B theſe properties and qualities in theſe birds. But I for my part like not to make ſuch ſimilitudes.

The firſt that killed Peacockes for to be ſerved up as a diſh at the table, was *Hortenſius* that great Oratour, in his ſolemne feaſt which he made when he was conſecrated high Prieſt. And *M. Aufidius Lurco* deviſed firſt to feed them fat: by which invention of his, he might diſpend by yeerely revenue * 60000 Seſterces. And this was about the time of the laſt Pirats warre. * 468 *lib.* 15 *ſh.*

Chap. xxi.

Of Cocks: how they be cut and made Capons. Alſo of a dunghill-cock that ſpake.

C NExt to Peacocks, theſe birds about our houſe which are our ſentinels by night, and whom Nature hath created to breake men of their ſleepe, to awaken and call them up to their worke, have alſo a ſenſe and underſtanding of glorie: they love (I ſay) to be praiſed, and are proud in their kind. Moreover, they are Aſtronomers, and know the courſe of the ſtarres: they devide the day by their crowing, from three houres to three houres: when the ſunne goeth to reſt, they go to rooſt: and like ſentinels that keepe the reliefe of the fourth watch in the camp; they call men up to their carefull labour and travaile: they will not ſuffer the ſunne to riſe and ſteale upon us, but they give us warning beforehand: by their crowing, they tell us that the day is comming: and they foretell their crowing likewiſe, by clapping their ſides with their wings. They are commaunders and rulers of their owne kind, be they Hens, or other Cocks; and in what houſe ſoever they be, they will be maſters and kings over them. This ſoveraignetie is gotten
D by plaine fight one with another; as if they knew, that naturally they had ſpurs (as weapons) given them about their heeles, to trie the quarrell: and many times the combat is ſo ſharpe and hot; that they kill one another ere they give over. But if one of them happen to be conqueror, preſently upon victorie hee croweth, and himſelfe ſoundeth the triumph. Hee that is beaten, makes no words, nor croweth at all, but hideth his head in ſilence; and yet nevertheles it goeth againſt his ſtomack to yeeld the gantlet and give the bucklers: hardly can he brook to be under another. And not only theſe cocks of game, but the very common ſort of the dunghill, are as proud and high minded: ye ſhall ſee them to march ſtately, carrying their neck bolt upright, with a combe on their head like the creſt of a ſouldiers helmet. And there is not a bird beſides himſelfe, that ſo often looketh aloft to the ſun and the skie: and then up goeth the taile withall, which he beareth
E on high, turning backward again on the top like a hook. And hereupon it is, that marching thus proudly as they doe, the very Lions (which of all wild beaſts be moſt courageous) ſtand in feare and awe of them, and will not abide the ſight of them.

Now of theſe Cocks, ſome of them are made for nothing els but war and fighting, and never are they well but in quarrels, brawls, and fraies; and theſe be cocks of the kind: and the countries from whence they come, are grown into name and be much renowmed for their breed: as namely, Rhodus and Tenagra, in the firſt and higheſt degree. In a ſecond ranke and place, be thoſe of Melos and Chalcis. Vnto theſe birds (for their worth and dignitie) the purple robe at Rome, and all magiſtrates of ſtate, diſdaine not to give honour. Theſe be they that by their *tripudium ſolſtimum*, [*i.* their heartie feeding] obſerved by the pullitiers, ſhew good ſucceſſe. Theſe rule our
F great rulers every day: and there is not a mightie L. & ſtate of Rome, that dare open or ſhut the dore of his houſe, before he knoweth the good pleaſure of theſe fouls: and that which more is, the ſoveraigne magiſtrate in his majeſtie of the Romane Empire, with the regall enſigns of rods and axes caried before him, neither ſetteth forward nor reculeth backe, without direction from theſe birds: they give order to whole armies to advance forth to battell: they again command them to

ſtay and keepe within the campe. Theſe were they that gave the ſignall, and foretold the iſſue of G
all thoſe famous foughten fields, whereby wee have atchieved all our victories throughout the
whole world: and in one word, theſe birds commaund thoſe great commaunders of all nations
upon the earth: as acceptable to the gods in ſacrifice with their ſmal fibres and filaments of their
inwards, as the greateſt and fatteſt oxen that are killed for ſacrifice. Over and beſides, their crow-
ing out of order, too ſoone before their houre, or too late, and namely in the evening, porten-
deth alſo and preſageth ſomewhat by it ſelfe. For well knowne it is, that by their crowing at one
time all night long, they fore-ſignified unto the Bœotians, that noble victorie of theirs atchie-
ved over the Lacedæmonians. For this interpretation and conjecture was given thereupon of a
fortunate day, becauſe that bird never croweth if he be beaten and overcome. If they be once
carved and made capons, they crow no more. And this feat is practiſed upon them two manner H
of waies: namely, either by burning their loynes toward their kidneys with a red hot yron, or
elſe by cauterizing their legges beneath, and their ſpurres, and then preſently applying a plai-
ſter unto the exulcerate and bliſtered place, made of potters white clay or chalkie earth. And
beeing thus ſerved, they will ſooner feed and be fat. At Pergamus, everie yeere there is a ſo-
lemne ſhew exhibited openly to the people, of Cock-fighting, as if ſword-fencers were brought
within the liſts to fight at outterance. We find in record among our Annales, that within the
territorie of Ariminum, in that yeare when *Marcus Lepidus* and *Quintus Catulus* were Con-
ſuls, there was a dunghill-cocke did ſpeake: and it was about a ferme-houſe in the countrey
belonging unto one *Galerius*. But this happened never but once, for ought that I could ever
heare or learne. I

Chap. xxii.

Of Geeſe: and who firſt eat the Gooſe liver. Alſo of the leaſe of a Gooſe of Comagena.

THe Gooſe likewiſe is very vigilant and watchfull. Witneſſe the Capitoll of Rome, which
by the meanes of Geeſe was defended and ſaved: whereas at the ſame time, through the
default of dogs, (who ſhould have given warning) all had like to have been loſt. And ther-
fore the firſt thing that the Cenſors doe by vertue of their office, is to take order for the Geeſe of
the Capitoll, and to appoint ſome one man of purpoſe to ſee unto them that they have meat K
ynough. Moreover, they are ſaid to be given much to love: For at Argos there was a Gooſe that
was wonderouſly enamoured of a faire boy named *Olenus*: as alſo of a Damoſell, whoſe name
was *Glauce*, who uſed to play on the Lute before king *Ptolomæus*: and by report at the ſame time
a Ram made court unto the ſaid wench, and was in love with her. It may be credibly thought alſo,
that this creature hath ſome ſparkes (as it were) of reaſon, underſtanding, and learning. For *Lacy-
des* the Philoſopher had one of them about him, which would never leave him night nor day,
neither in the open ſtreet abroad, nor in private houſe at home: but would follow him even to
his cloſe and ſecret baines where he uſed to bath. But our countrymen and citizens of Rome (be-
leeve me) are wiſer now adaies: who know forſooth how to make a daintie diſh of their liver. For
in thoſe Geeſe that are kept up and crammed fat in coupe, the liver groweth to bee exceeding L
great: and when it is taken forth of the bellie, it waxeth bigger ſtill, if it be ſteeped in milke and
ſweet mead together. Good cauſe therefore it is, that there be ſome queſtion and controverſie a-
bout the firſt inventor of this great good and ſingular commoditie to mankind: whether it were
Scipio Metellus, a man who lately was called to be Conſull, or *M. Seſtius* who in thoſe daies was by
his birth a gentleman of Rome. But to leave that ſtill undecided, this is for certaine knowne, that
Meſſalinus Cotta, ſonne to that *Meſſala* the Orator, found out the ſecret to broile and frie the flat
broad feet of geeſe, and together with cockes combes to make a ſavorie diſh of meat thereof be-
tweene two platters. For ſurely I for my part will give every man his due and right: and will not
defraud them of their ſingular praiſe and honour who have been benefactors to the kitchin, and
proceeded maiſters in cookerie. A marvellous thing of theſe birds, that a flocke of them ſhould M
*Morini. come all the way bare foot, from *Terwin and Torney in France as farre as to Rome. Their order
was, who had the conduct of them in this large voiage, to bring thoſe forward that were wearie
and lagged behind, into the vaward and forefront: and ſo the reſt by a certaine thick united ſqua-
dron, (which naturally they make when they go together) drive the others before them. A ſecond

commo-

A commoditie that Geeſe yeeld, (eſpecially thoſe that be white) is their plume and downe. For in ſome places their ſoft feathers are pluckt twice a yeare: and yet they carie feathers again, and be as well covered with plume as before: and evermore the neerer to the skin and fleſh, the ſofter is the downe. But of all other, the fineſt and beſt is that which is brought out of Germanie. The Geeſe there, be all white; but leſſe of bodie than from other parts: and there they be called Ganzæ. And in truth, a pound of ſuch feathers bee worth *five deniers. Hereupon it is, that ſo many complaints are made of Colonels and Captaines over companies of auxiliarie ſouldiours for their diſorders. For whereas they ſhould keepe them together in a ſtanding *corps de guard*, to watch and ward night and day: they licenſe many times whole bands to ſtraggle abroad, to hunt and chaſe Geeſe for their feathers and downe. And now forſooth the world is growne to be ſo de- *3 ſh. 8 d. ob.

B licate and daintie, that not onely our fine ſmooth dames, but alſo our men, cannot take their repoſe and ſleepe without this ware, but complaine of a paine in their neckes & heads, unleſſe they may lay them upon bolſters and pillowes of gooſe feathers, and their ſoft downe.

Now, to that part of Syria called Comagena, we are beholden for another proper invention of theirs. They take me the leaſe and greaſe of Geeſe and Cinamon together, which they put into a brazen pot, and cover it all over with good ſtore of ſnow, wherein they let it lie in ſteepe, well infuſed in this cold humor, to uſe in that notable compoſition and ſweet ointment, which of that countrey is called Comagenum.

Of the Geeſe kind are the Birganders named Chelanopeces: and (than which there is not a daintier diſh knowne in England) the Chenerotes, leſſe than wild Geeſe.

C As for the Feſant Buſtards, they have a trim ſhining brightneſſe that becommeth and graceth them exceeding well in their perfect and abſolute blacke hew: and their eie-browes painted red as it were with deepe Scarlet.

Another kind there is of them, bigger than Vultures, but in feather and colour much reſembling them. And there is not a Foule (letting the Oſtrich aſide) that poiſeth and weigheth more heavie than they. For they grow to that bignes, that a man can hardly lift them from the ground. Theſe breed in the Alpes and the North countries. If they bee mued up and kept in a pen, they looſe their pleaſant taſt, and are no good meat: nay, they grow ſo ſullen and ſelfe-willed, that they will die with holding their breath. Next to theſe are thoſe which in Spaine they call the Slow-birds, and in Greece Otides: but their meat is naught: for the marrow within their bones, if it be

D let run out, hath ſuch a ſtinking ſmell, that a man cannot abide it, but ſhall be readie to vomite.

Chap. xxiii.

Of Cranes, Storkes, Swans, Quailes, the Glotis, and ſtrange birds of other countries.

THe nation of the pretie Pigmies enjoy a truce and ceſſation from armes, every yeare (as we have ſaid before) when the Cranes, who uſe to wage warre with them, be once departed and come into our countries. And verily, if a man conſider well how far it is from hence to the Levant ſea, it is a mightie great journey that they take, and their flight exceeding long. They put

E not themſelves in their journey, nor ſet forward without a counſell called before, and a generall conſent. They flie aloft, becauſe they would have a better proſpect to ſee before them: and for this purpoſe a captain they chuſe to conduct them, whom the reſt follow. In the rereward behind there be certaine of them ſet and diſpoſed to give ſignall by their manner of crie, for to raunge orderly in rankes, and keepe cloſe together in array: and this they doe by turnes each one in his courſe. They maintaine a ſet watch all the night long, and have their ſentinels. Theſe ſtand upon one foot, and hold a little ſtone within the other, which by falling from it, if they ſhould chaunce to ſleepe, might awaken them, and reprove them for their negligenve. Whiles theſe watch, all the reſt ſleepe, couching their heads under their wings: and one while they reſt upon the one foot, and otherwhiles they ſhift to the other. The captain beareth up his head aloft into the aire,

F and giveth ſignall to the reſt what is to be done. Theſe Cranes if they be made tame and gentle, are very playfull and wanton birds: and they will one by one dance (as it were) and run the round with their long ſhankes ſtaulking full untowardly. This is for certain known, that when they mind to take a flight over the ſea Pontus, they will flie directly at the firſt to the narrow ſtreights of the ſaid ſea, lying betweene the two capes Criu-Metophon and Carambis, and then preſently they

ballaise themselves with stones in their feet, and sand in their throats, that they flie more steadie G
and endure the wind. When they be halfe way over, down they fling those stones: but when they are come to the continent, the sand also they disgorge out of their craw.

Cornelius Nepos, who died in the daies of *Augustus Cæsar* Emperour, in that chapter where he wrote, That a little before his time men began to feed and cram Blackbirds and Thrushes in coupes, saith moreover, That in his daies Storkes were holden for a better dish at the bourd than Cranes. And yet see, how in our age now, no man will touch a Storke if it bee set before him upon the bourd: but every one is readie to reach unto the Crane, and no dish is in more request. From whence these Storkes should come, or whether they goe againe, is not yet knowne. No doubt, from farre remote countries they visite us, and in the same manner as the Cranes do: only this is the difference, that the Cranes are our guests in Winter, and the Storkes in Summer. H
When they bee minded to depart out of our coasts, they assemble all together in one certaine place appointed: there is not one left out nor absent of their owne kind, unlesse it bee some that are not at libertie, but captive or in bondage. Thus (as if it had been published before by proclamation) they rise all in one entire companie, and away they flie. And albeit well knowne it might be afore, that they were upon their remove and departure, yet was there never any man (watched he never so well) that could perceive them in their flight: neither doe wee at any time see when they are comming to us, before wee know that they bee alreadie come. The reason is, because they doe the one and the other alwaies by night. And notwithstanding that they flie too and fro from place to place, and make but one flight of it, yet are they supposed never to have arrived at any coast but in the night. There is a place in the open plaines and champion countrey of A- I
sia, called Pithonos-Come: where (by report) they assemble all together, and being met, keepe a jangling one with another: but in the end, looke which of them lagged behind and came tardie, him they teare in peeces, and then they depart. This also hath been noted, that after the Ides of August they be not lightly seene there.

Some affirme constantly, that Storkes have no tongues. But so highly regarded they are for slaying of Serpents, that in Thessalie it is accounted a capitall crime to kill a Storke, and by law he is punished as a Felon in the case of manslaughter.

After the same manner wild Geese and Swans do sort together, when they be passengers from countrey to countrey: but all these are seene when they flie. They make way forcibly in a pointed squadron, like as it were the stemme of a foist at sea, armed with a sharpe beakehead (for by this K
meanes they breake and cut the aire better, than if they drave it before with a streight, even, and square front.) And thus wedge-wise by little and little they spread broader and broader behind, and beare a great length besides with them: by which meanes also they gather more wind to heave them up and set them forward. In this their flight they rest their heads upon the former: and ever as any one that leadeth the way is wearie with bearing his head, hee retireth behind to ease himselfe upon him that flieth next before. Storkes keepe one nest still from yeare to yeare, and never chaunge: and of this kind nature they are, that the young will keepe and feed their parents when they be old, as they themselves were by them nourished in the beginning.

Some say that the Swans sing lamentably a little before their death, but untruly, I suppose: for experience in many hath shewed the contrarie. Howbeit, these foules use to eat and devour one L
another.

But since wee are entred into this discourse of those foules that make voiages by whole flocks over sea and land to see straunge countries, I cannot put off to speake of lesser birds also, which are of the like nature. For those beforenamed may seeme in some sort to bee induced to such great travell, so big they are of bodie, and so strong withall. As touching Quailes therefore, they alwaies come before the Cranes depart. A little bird it is, and whiles she is among us here, mounteth not aloft in the aire, but rather flieth below neere the ground. The manner of their flying is like the former, in troupes: but not without some daunger of the sailers when they approch neer to land. For oftentimes they settle in great number upon their sailes, and there perch; which they doe evermore in the night, and with their poise beare downe barkes and small ves- M
sels, and finally sinke them. These Quailes have their set gifts, to wit, ordinarie resting and baiting places. When the Southwind bloweth, they never flie: for why? it is a moist, heavie, and cloggie wind, and that they know well ynough. And yet they willingly chuse a gale whensoever they flie, by reason that their bodies are too weightie (in comparison of their wings) to beare

them

A them up: and besides, their strength is but small. And hereupon it is, that as they flie, they seeme by their manner of crie to complaine, as though they flew with paine. Commonly therefore they chuse a Northerne wind to flie with: and they have one mightie great Quaile called Ortygometra, to lead the way and conduct them, as their captaine. The formost of them, as hee approcheth neere to land, paieth toll for the rest unto the hawke, who presently for his welcome preieth upon him. Whensoever at any time they are upon their remoove and departure out of these parts, they persuade other birds to beare them companie: and by their inducements, there goe in their traine the Glottis, *Otis, and the Cychramus. As for the Glottis, he putteth forth a long tongue, whereupon he hath that name. This bird is very forward at the first setting out (as being desirous to be a traveller, to see farre countries, and to change the aire:) and the first daies
B journey he undertaketh with pleasure: but soone finding the tediousnesse and paines in flying, he repents that ever he enterprised the voiage. To go backe againe without companie, he is ashamed: and to come lag behind he is as loth: howbeit, for that day he holdeth out so so, and never goeth farther: for at the next resting place that they come unto, hee faire leaveth the companie and staieth there; where lightly he meeteth with such another as himselfe, who the yeare before was left behind. And thus they doe from time to time, yeere by yeere. As for the Cychramus, he is more staied and resolute to endure the travell: he maketh hast and hath an earnest longing to come into those parts which he so much desireth: and therfore in the night season he is as good as a trumpet to awake the rest, & put them in mind of their journey. The Otis is a bird lesse than the Like-Owle, bigger than the Howlet, having two plumed eares standing up aloft, whereupon
C he tooke that name Otis in Greeke. But in Latine some have called him Asio. This bird besides, hath certain qualities by her selfe, and is skilfull to counterfet and make gestures like a flattering parasite: she can foot it, turne and trip, mount and capre, as if she were a professed dauncer. Easie she is to bee taken like as the Howlet, for whiles she is amused and looking wistly upon one that goeth about her, another commeth behind and soone catcheth her. But to returne unto our Quailes aforesaid. If a contrarie wind should chaunce to arise and begin to drive against them, and hinder their flight: to prevent this inconvenience, they be well provided. For they flie well ballaised either with small weightie stones within their feet, or else with sand stuffed in their craw. The seed or graine of the white Elebore (a very poyson) they love passing well, and it is their best meat. But hereupon it is, that they are not served up as a dish to the table. Moreover, they are
D wont to fome and slaver at the mouth, by reason of the falling sicknesse, unto which they only of all other creatures, but man againe, are subject.

* The Bistard or Horne-owle.

Chap. xxiiii.

Of Swallowes, Ousles or Merles, Thrushes, Stares or Sterlings, Turtles, and Stockdoves.

THe Swallows likewise (the birds alone of all those that have not crooked claws, which feed upon flesh) are gone from us all Winter time. Howbeit, they depart not far off, but seeke onely the Sunne-shine nowkes, betweene hils neere at hand, and follow the warmth. Where ma-
E ny times they are found naked, and without feathers altogether, as if they had moulted. It is said, that they will never build their neasts under any house in Thebes: because that cittie had beene many times forced and taken by the enemie. Neither in Bizia, a cittie of Thrace, by reason of those detestable parts practised by *Tereus* there. *Cæcina* of Volaterræ, a gentleman of Rome by calling (Governour and maister of the coaches and coach-horses that used to run for the prise and best game) was woont to bring with him into the cittie, a number of these Swallowes, which he had gotten in diverse places where hee came, out of his friends houses wherein they were bred. And when the horses which he had in charge obtained at any time victorie in the race, hee would take the birds, and paint them with that colour which betokened victorie, and so with that liverie (as it were) let them flie to his friends, for to carrie tidings unto them of
F the good successe which hee had obtained: knowing right well, that every one would home to the same neast from whence they came. And thus in small space could hee enforme his consorts and well-willers of his good speed. Also *Fabius Pictor* reporteth in his Annales, That when a fort (which the Romane garison held) was besieged by the Ligustines; there was a shee Swallow newly taken out of her neast within that fort, from her little ones as she sat over them, and

brought

brought unto him with this watch-word, That by a linnen thred tied to her foot in ſteed of a letter, hee ſhould advertiſe them within the fort, by ſo many knots tied in the ſaid thred, as there would daies paſſe before aid could come from him unto them, to the end that they alſo might be readie upon that day to ſallie forth. G

Ouſles, Throſtles, Blackbirds, and Stares, after the ſame manner depart aſide from us, but goe not farre. Howbeit, theſe caſt not their feathers, nor lie altogether hidden: but are ſeene oftentimes in places, from whence they fetch meat to ſerve them in the Winter. And therefore it is, that Black birds are common in Germanie, and eſpecially in Winter time.

The Turtle more properly and truly is ſaid to hide her ſelfe, and to ſhed her plume and moult.

Stock-doves likewiſe depart from us, but whether they goe, no man knoweth.

As touching Sterlings, it is the propertie of the whole kind of them to flie by troupes, and in their flight to gather round into a ring or ball, whiles every one of them hath a deſire to bee in the middeſt. H

Of all birds, the Swallow alone flieth bias, and windeth in and out in his flight: hee is moſt ſwift of wing, and flieth with eaſe: and therefore not ſo readie to bee ſurpriſed and taken by other birds. To conclude, he never feedeth but flying, and ſo doth no other bird beſides.

Chap. xxv.

What birds continue with us all the yeare long: which be halfe yeares birds, and which be but for three months.

GReat difference there is in the ſeaſons and times of birds. Some abide the whole yeare, as houſe-Doves: others halfe the yeare, as Swallowes: and ſome againe but a quarter, as Blackbirds and Turtle doves. And there be again that are gone ſo ſoone as they have hatched and trained their young abroad into the open aire. Such bee the Hu-holes, and Houpes, [or Lapwings as ſome thinke.] I

Chap. xxvi.

Strange ſtories of birds.

WRiters there bee who affirme, That every yeare certaine birds come flying out of Æthyopia to Ilium, and there, about the tombe or ſepulchre of *Memnon*, skirmiſh and fight a battell. For which cauſe men call them Memnonides. And *Cremutius* avoucheth upon his owne knowledge, That every fift yeare the ſame birds doe the like in Æthyopia, even before the roiall palace ſometime of the ſaid king *Memnon*. K

Semblably, the birds named Maleagrides, doe fight a field in Bœotia. Now are theſe Meleagrides a kind of Turkey-cockes, and hens of Affricke, having a bunch on their backe, and beſpotted with feathers of ſundrie colours. Of all ſtrange birds, comming out of forraine parts, theſe are laſt received and admitted to ſerve the table, by reaſon of a certaine harſh and unpleaſant ſtrong taſt that they have. But it is the monument and tombe of *Meleager* which hath given them that name and credite which they have.

L

Chap. xxvii.

Of birds ſurnamed Seleucides.

THe birds called Seleucides, come to ſuccour the inhabitants of the mountaine Caſius, againſt the Locuſts. For when they make great waſt in their corne and other fruits, *Iupiter* at the inſtant praiers and ſupplications of the people, ſendeth theſe foules among them to deſtroy the ſaid Locuſts. But from whence they come, or whether they goe againe, no man knoweth: for never are they ſeene but upon this occaſion, namely, when there is ſuch need of their helpe.

M

Chap. xxviii.

Of the bird Ibis.

THe Ægyptians likewiſe have recourſe in their praiers and invocations to their birds named Ibis, what time as they be troubled and annoied with ſerpents comming among them. And

in

A in like caſe the Eleans ſeeke unto their god *Myiagros*, for to be rid of a multitude of flies which peſter them ſo, that they breed a peſtilence among them. But looke upon what day they find that Idoll appeaſed and pacified by their ſacrifice, all the flies die forthwith.

Chap. xxix.

What birds they be, which will not abide ſome places: alſo which be they that change colour and voice: and then of the Nightingale.

BVt that which wee ſhould have ſaid when wee wrote of the departure and going aſide of birds: the Howlets alſo are reported to lie hidden ſome few daies. Moreover, this is known for a truth, That in the Iſland Candie there be none at all of them: and in caſe that any one be thither brought, it will die there. A wonderfull thing, that Nature ſhould make difference of birds and other creatures in that reſpect. But ſure it is, ſhe hath not brought forth all creatures in all places, but hath priviledged this countrey more than that: and denied that to one which ſhe hath given unto another. And thus hath ſhee dealt not onely by fruits of the earth, trees, and plants, but alſo by living creatures. That in ſome parts this or that ſhould not grow or breed, is a thing commonly ſeene & knowne: but, that thoſe things ſhould die ſo ſoon as they are brought thither, is very ſtraunge and wonderfull. What ſhould that bee which is ſo contrarie unto one kind and no more, as that it will not ſuffer it to live? What envie is this of Nature, thus to hinder the breeding or life of any creature? or why ſhould birds be reſtrained within any limits and bounds in the whole earth? And yet ſee! In all the Iſland of Rhodes a man ſhall not find one Airie of Ægles. In that tract of Italie beyond the Po, and neere unto the Alpes, there is a lake which they call there Larius; the place about it is right pleaſant and delectable, enriched with goodly trees that beare fruit, and faire fields for paſturage: and yet a man ſhall never ſee any Storke to come thither, no nor within eight miles of it. And yet in the neighbor quarters of the *Inſubrians neere adjoining, ye ſhall have infinite and innumerable flockes and flights of choughes and jack dawes: the verieſt theeves, nay the onely theeves of all other birds, eſpecially for ſilver and gold, that it is a wonder to ſee what means they will make to ſteale and filch it. Men ſay that in the territorie of Tarentum there be no wood-pecks or tree-jobbers. It is but of late daies, ſince that from the mountaine Apennine toward the cittie of Rome there have been ſeene Pyannets with long tailes, partie coloured and flecked; whereupon they bee called Variæ: and yet ſuch are not common, but very geaſon to be found. Their propertie is to be bald every year, what time as men ſow rapes or navewes. The Partridges in the territorie of Attica, flie not over into the marches of Bœotia. And there is not a bird within the compaſſe of the ſea Pontus, and namely, in the Iſland wherein *Achilles* was buried, that will paſſe beyond the temple conſecrated unto him. In the territorie of Fidenæ neere to Rome, Storkes build no neaſts, neither ſhall a man find a yong Storke there. But into the parts about Volaterræ, there is not a yeare but one ſhall ſee a world of Stockdoves flying from beyond ſea. At Rome yee ſhall not have a flie or dog that will enter into the chappell of *Hercules* ſtanding in the beaſt-market. In a word, I could alleadge many ſuch like examples; which of purpoſe I paſſe over, becauſe I would not be tedious in my diſcourſes: ſeeing that *Theophraſtus* reporteth, how all the Doves, Peacockes, and Ravens which are in Aſia, have been brought thither from other parts: like as all the Frogs in Cyrenaica, which doe crie, whereas their owne be mute all.

*Lumbardie.

As for ſinging birds, this is another ſtrange and wonderous thing obſerved in them. For at certaine times of the year they chaunge their colour in feathers, and alter their voice in ſinging: and that in ſuch ſort, as of a ſuddaine a man would ſay they were other birds. A thing that happeneth not to the great foules aboveſaid, ſave only unto Cranes: for they with age waxe black. And to begin with the Merle or Blackbird, which naturally is blacke, he turneth to be reddiſh. In ſummer he ſingeth cleare and tunably, in winter he ſtutteth and ſtammereth: but about the ſun-ſtead in December, hee is mute and dumbe altogether. After they bee once, a yeare old, I meane the cockes or males onely of that kind, their bils turne to be white like yvorie. The Throſtles or Maviſſes all Summer be painted about the necke with ſundry colours, but in Winter they be all of a colour.

The Nightingale for fifteene daies and nights together, never giveth over but chaunteth continually, namely, at that time as the trees begin to put out their leaves thicke. And ſurely this

this bird is not to be ſet in the laſt place of thoſe that deſerve admiration: for is it not a woonder G
that ſo lowd and cleere a voice ſhould come from ſo little a bodie? Is it not as ſtraunge that
ſhee ſhould hold her wind ſo long, and continue with it as ſhee doth? Moreover, ſhee alone
in her ſong keepeth time and meaſure truely; ſhee riſeth and falleth in her note juſt with the
rules of muſicke and perfect harmonie: for one while, in one entire breath ſhe draweth out her
tune at length treatable; another while ſhee quavereth, and goeth away as faſt in her running
points: ſometime ſhe maketh ſtops and ſhort cuts in her notes, another time ſhee gathereth in
her wind and ſingeth deſcant between the plaine ſong: ſhe fetcheth her breath againe, and then
you ſhall have her in her catches and diviſions: anon all on a ſodaine, before a man would think
it, ſhe drowneth her voice, that one can ſcarce heare her: now and then ſhe ſeemeth to record to
her ſelfe; and then ſhee breaketh out to ſing voluntarie. In ſumme, ſhe varieth and altereth her H
voice to all keyes: one while, full of her largs, longs, brieſes, ſemibrieſes, and minims; another
while in her crotchets, quavers, ſemiquavers, and double ſemiquavers: for at one time you ſhall
heare her voice full and lowd, another time as low; and anon ſhrill and on high: thicke and ſhort
when ſhe liſt; drawne out at leiſure againe when ſhe is diſpoſed: and then (if ſhee be ſo pleaſed)
ſhe riſeth & mounteth up aloft, as it were with a wind-organ. Thus ſhe altereth from one to ano-
ther, and ſingeth all parts, the Treble, the Meane, and the Baſe. To conclude, there is not a pipe
or inſtrument againe in the world (deviſed with all the Art and cunning of man ſo exquiſitely
as poſſibly might be) that can affourd more muſicke than this pretie bird doth out of that little
throat of hers. So as no doubt there was fore-ſignified moſt excellent and melodious muſicke,
by an excellent preſage of a nightingale which ſetled upon the mouth of *Steſichorus* the Poët, I
and there ſung full ſweetly: who afterwards prooved to be one of the moſt rare and admirable
muſitians that ever was. And that no man ſhould make a doubt that there is great Art and cun-
ning herein, doe but marke, how there is not one Nightingale but hath many notes and tunes.
Againe, all of them have not the ſame, but every one a ſpeciall kind of muſick by her ſelfe: nay,
they ſtrive who can do beſt, and one laboureth to excel another in varietie of ſong and long con-
tinuance: yea and evident it is, that they contend in good earneſt with all their will and power:
for oftentimes ſhe that hath the worſe and is not able to hold out with another, dieth for it, and
ſooner giveth ſhe up her vitall breath, than giveth over her ſong. Ye ſhall have the young Nigh-
tingales ſtudie and meditate how to ſing, by themſelves: yee ſhall have them liſten attentively to
the old birds when they ſing, and to take out leſſons as it were from them, whom they would ſeem K
to imitate ſtaffe by ſtaffe. The ſcholler, when ſhee hath given good eare unto her miſtreſſe, pre-
ſently rehearſeth what ſhe hath heard; and both of them keep ſilence for a time in their turnes.
A man ſhall evidently perceive when the young bird hath learned well, and when againe it muſt
be taught how to correct and amend wherein it did amiſſe: yea and how the teacher will ſeeme
to reproove and find a fault. No marveile therefore if one of theſe Nightingales carrie the price
(in the market) of a bondſlave; yea and a higher too, than a man might in old time have bought
a good page and harneſſe-bearer. I my ſelfe have knowne one of them (mary it was white, which
was a rare thing and not commonly ſeene) to have been ſold for 6000 Seſterces, for to be given
as a preſent unto the Empreſſe *Agrippina*, wife of *Claudius Cæſar* late Emperour of Rome. And L
now of late we have known many of them taught to begin to ſing, only when a man would have
them: and keepe there reſponds in courſe after others, in good concent and harmonie. As alſo
there have been found men, who by a deviſe of a reed or cane had out of the water, put croſſe
overthwart their mouth, and by putting their tongue into an hole made of purpoſe in it, and
blowing withall, could counterfeit the Nightingale ſo perfectly, that one might not diſcern and
diſtinguiſh the one from the other. Well, theſe little Nightingales, ſo great chaunters as they be,
ſo cunning and full of their conceits, after fifteen daies begin to abate and ſlake their muſicke;
yet ſo, as a man cannot ſay, they were either wearie, or ſatisfied with ſinging: for ſoone after, when
the weather groweth hotter, their voice is cleane altered: for neither are they muſicall and tune-
able in their meaſures with varietie as before, but onely ſing plaine-ſong and keepe them to one
tune. And more than ſo, they chaunge their colour in proceſſe of time: and laſt of all, when win- M
ter comes, be no more ſeene. Tongued they are not like other birds, with a thin tip before. They
begin to breed with the firſt, in the prime of the ſpring, and commonly lay ſix egges.

The Gnatſnapper, Ficedula, a bird ſomewhat like unto the Nightingale, doth otherwiſe: for
at one time, it chaungeth both colour, forme, and ſong. They have not that name Ficedulæ pro-

perly

A perly but in the Autumne, as one would ſay, figge-feeders: for when that ſeaſon is once paſt, they be called Melancoryphi, *i.* Black-heads.

In like ſort, the bird which is named Erithacus, [*i.* Robin, or Redbreaſt] in winter; the ſame is Phœnicurus, [*i.* Red-taile] all ſummer long.

The Houpe or Vpupa (as *Æſchylus* the Poët ſaith) chaungeth alſo her hew, voice, and ſhape. This is a * naſtie and filthie bird otherwiſe, both in the manner of feeding, and alſo in neſtling; but a goodly faire creſt or combe it hath, that will eaſily fold and be plaited: for one while ſhee will draw it in, another while ſet it ſtiffe upright along the head.

* For as *Ariſt.* reporteth, it neſtleth in mans dung.

As for the bird Oenanthe, it alſo for certaine daies lyeth cloſe and unſeen; and namely, when the Dog-ſtarre ariſeth, it is hidden: but after the occultation thereof, commeth abroad & ſhew-
B eth her ſelfe: a ſtraunge thing, that in thoſe daies it ſhould doe both. Laſt of all, the * Witwall or Lariot, which is all over yellow, being not ſeen all winter time, appeareth about the ſunſteeds. * Chlorion.

Chap. xxx.

Of the Merles.

ABout Cyllene in Arcadia, and no where els, ye ſhall find white Merles or Ouſles. And Ibis, about Peluſium onely in Ægypt, is blacke; in all places elſe of Ægypt, white.

Chap. xxxi.

C

The kind of birds breeding and hatching.

ALl ſinging birds, ſave onely thoſe that are excepted before, lightly breed not nor lay their egges before the ſpring Æquinoctiall in mid-March, or after the Autumnall, in mid-September. And thoſe that they hatch before the ſummer Sunſtead, [*i.* mid-Iune] hardly come to any perfection: but after that time, they doe well enough and live.

Chap. xxxii.

Of the Halcyones, or Kings-fiſhers: and the daies good for navigation which they ſhew. Of the Sea-guls and Cormorants.

D

ANd in this regard eſpecially, namely for breeding after the ſummer Sunſteed, the Halcyones are of great name and much marked. The very ſeas, and they that ſaile thereupon, know well when they ſit and breed. This very bird ſo notable, is little bigger than a ſparrow: for the more part of her pennage, blew, intermingled yet among with white and purple feathers, having a thin ſmall neck and long withall. There is a ſecond kind of them breeding about the ſea ſide, differing both in quantitie and alſo in voice; for it ſingeth not as the former do which are leſſer: for they haunt rivers, and ſing among the flagges and reeds. It is a very great chaunce to ſee one of theſe Halcyones, and never are they ſeene but about the ſetting of the ſtarre Virgiliæ, [*i.* the Brood-hen:] or elſe neere mid-ſummer or mid-winter: for otherwhiles they
E will flie about a ſhip, but ſoone are they gone againe and hidden. They lay and ſit about mid-winter when daies be ſhorteſt: and the time whiles they are broodie, is called the Halcyon daies: for during that ſeaſon, the ſea is calme and navigable, eſpecially in the coaſt of Sicilie. In other ports alſo the ſea is not ſo boiſterous, but more quiet than at other times: but ſurely the Sicilian ſea is very gentle, both in the ſtreights and alſo in the open Ocean. Now about ſeven daies before mid-winter, that is to ſay, in the beginning of December, they build; and within as many after, they have hatched. Their neſts are wonderouſly made, in faſhion of a round bal: the mouth or entrie thereof ſtandeth ſomewhat out, and is very narrow, much like unto great ſpunges. A man cannot cut and pierce their neſt, with ſword or hatchet; but break they wil with ſome ſtrong knocke, like as the drie ſome of the ſea: and no man could ever find of what they be made. Some
F thinke they are framed of the ſharpe pointed prickes of ſome fiſhes, for of fiſh theſe birds live. They come up alſo into freſh rivers within-land: and there doe lay ordinarily five egges.

As touching the Guls or Sea-cobs, they build in rockes: and the Cormorants both in them, and alſo in trees. They uſually lay foure egges apeece. The Guls in ſummer time, but the Cormorants in the beginning of the ſpring.

Chap.

G

Chap. xxxiii.

The induſtrie and wit of birds in building their neſts. Of the Swallow, the Argatilis, Cinnamologi, and Partridges.

THe Architecture and building of the Halcyones neſt, hath put me in mind of other birds dexteritie in that behalfe: and ſurely in no one thing is the wit of ſillie birds more admirable. The Swallows frame their neſts of clay and earth, but they ſtrengthen and make them faſt with ſtraw. In caſe at any time they cannot meet with ſoft and tough clay, for want thereof they drench and wet their feathers with good ſtore of water, and then beſtrew them over with duſt. Now when they have made and trimmed their bare neſt, they floore it in the bottom with- H
in, and dreſſe it all over with downe feathers or fine floxe, as well to keepe their egges warme, as alſo that their young birds ſhould lie ſoft. In feeding of their little ones, they keepe a very good order and even hand, giving them their pittance and allowance by courſe one after another. Notable is their care in keeping them neat and cleane; for ever as they meut, they turne the excrements out of the neſt: but be they once growne to any ſtrength and bigneſſe, they teach them to turne about and lay their tailes without.

Another kind there is of Swallowes, that keepe in the countrey villages and the fields, which ſeldome neſtle under mens houſes: and they likewiſe build of the ſame matter as the former do, namely, of clay and ſtraw, but after another faſhion: for their neſts are made turning all upward, with the hole or mouth that leadeth unto it, ſtretched out in length ſtreight and narrow, but the I
capacitie within is verie large; in ſuch ſort, as it is a wonder to ſee how provident and skilful they ſhould be to frame them in this manner, ſo handſome and convenient to cover their yong ones; ſo ſoft againe, for their couch and bed. In the mouth of Nilus neare Heraclea in Ægypt, there is a mightie banke or cauſey raiſed onely of a continuall ranke and courſe of Swallowes neſts, piled one upon and by another thicke, for the length almoſt of halfe a quarter of a mile; which is ſo firme and ſtrong, that being oppoſed againſt the inundations of Nilus, it is able to breake the force of that river when it ſwelleth, and is it ſelfe inexpugnable: a peece of work that no man is able to turne his hand unto. In the ſame Ægypt neere unto the town Coptos, there is an Iland conſecrated unto the goddeſſe *Iſis*, which every yeere theſe Swallowes doe rampier and fortifie, for feare leaſt the ſame Nilus ſhould eat the bankes thereof and breake over into it. In the begin- K
ning of the ſpring, for three nights togither, they bring to the cape of that Iland, ſtraw, chaffe, and ſuch like ſtuffe, to ſtrengthen the front thereof: and for the time, they plie their buſineſſe ſo hard, that for certaine it is knowne, many of them have died with taking ſuch paines and moiling about this worke. And verily every yeere they goe as daily to this taske againe, as the ſpring is ſure to come about: and they faile not, no more than ſouldiers that by vertue of their militarie oth and obligation, goe forth to ſervice and warfare.

A third ſort there is of theſe Swallowes or Martinets, which hollow the bankes of rivers, and ſo neſtle within between. The young birds of theſe Martins, if they be burnt into aſhes, are a ſingular and ſoveraign remedie for the deadly ſquinancie, and helpe many other diſeaſes of mans bodie. Theſe build not at all: but if they perceive that the river Nilus when it ſwelleth, will riſe as L
high as their holes, they are gone many daies before.

There be certaine birds of the kind of Parræ, which of drie moſſe make a neſt, reſembling ſo perfectly a round ball, that unneth or hardly a man can ſee which way they ſhould goe in. And another there is called Argatilis, which contriveth her neſt after the ſame forme, but it is of hurds and flaxe.

There is a kind of Woodpecker, maketh a neſt in manner of a cup or goblet, and hangeth it at a twig upon the uppermoſt boughes and braunches of a tree, that no four-footed beaſt ſhould reach it. And as for the birds called Galguli, men ſay for a truth, that they take their ſleepe hanging all by their legges to ſome braunch, thinking by that meanes they are in more ſafetie. True it is indeed and commonly knowne, that all theſe birds in great forecaſt and providence, chuſe M
ſome croſſe boughes inſtead of rafters, to ſupport and beare up their neſts; and then to ſave them from the raine, either vaut them over with an arched roofe, or elſe cover them cloſe and thicke with leaves.

A bird there is in Arabia called Cinnamologus, which with the twigs and braunches of the

Cinamon

A Cinamon tree buildeth her neſt. The inhabitants of that countrey being ware thereof, ſhake the ſame downe by ſhooting arrowes headed with lead, for to make a commoditie thereby. In Scythia, there is a bird of the bigneſſe of an Otis, which commonly layeth two egges, & when they are lapped within a hares skin, alwaies hangeth them upon the top of tree boughes. The Pyannets, when they perceive (by a watching eye that they have) that a man hath ſpied their neſt, preſently build in another place, and remoove their egges thither. Now for thoſe birds which have no hooked nailes, how they ſhould tranſlate their egges from one place to another, conſidering their feet are not made to claſpe them, it is a wonderfull thing, and reported after a ſtraunge manner: for they lay a ſticke over two egges, and ſouder it faſt to them with a certaine viſcoſitie which commeth forth of their owne guts when they meute: which done, they put their
B necks under the ſticke betweene both egges, which hanging equally poiſed of either ſide, they carrie eaſily whither they would.

No leſſe induſtrious are they that make their neſts in the ground, as beeing not able to flie into the aire by reaſon of their weightie bodies. Among which, there is one called Merops, that uſeth to feed her parents, lying hidden within the earth. The inſide of her feathers in the wing is pale, the outſide blew; and yet thoſe above about their necke, are ſomewhat red. She maketh her neſt in an hole ſix foot deepe within the ground. Againe, the Partridges doe ſo fortifie and empale their neſts with thornes and twigges of ſhrubs and buſhes, that they be ſufficiently ſenſed againſt the invaſion of wild beaſts. They cover their egges with a ſoft carpet or hilling as it were of fine duſt: neither doe they ſit where they laid them firſt, nor yet in a place which they ſuſpect
C to bee much frequented with reſort of paſſengers, but convey them to ſome other place. The hennes verily of this kind, hide themſelves from their males the cockes; for ſo leacherous they be and given to intemperate luſt, that they would ſquath their egges, becauſe they ſhould not be amuſed and occupied about ſitting. Then, for want of the females, the males goe togither by the eares: and (as they ſay) he that is overcome, ſuffereth himſelfe to be troden like an hen. *Trogus* verily reporteth the very ſame of the Quailes; yea and of dunghill cockes otherwhiles. Hee ſaith moreover, that tame Partridges uſe to tread the wild: alſo that thoſe which are new taken or beaten, be troden of others indifferently one with another. This libidinous heat of theirs is ſuch, and maketh them ſo quarrelſome, that oftentimes they are taken by the meanes. For when the Fouler commeth with his pipe or call (reſembling the female) to allure and traine them
D forth, out goeth the captaine of the whole flocke directly againſt him: and when he is caught, another followeth after, and ſo the reſt one after another, one by one. In like manner, they uſe to take the females, at what time as they ſeeke the male to tread them: for then, foorth they go againſt the Foulers chanterell or watch which calleth them out, that with their quarrelling and brawling which they make, they might chace and drive it away. In ſumme, there is not to bee found in any other living creature, the like againe for luſt and leacherie in the act of generation. If the hens doe but ſtand directly overagainſt the cocks, the very wind and aire that paſſeth from them, will cauſe them to conceive as well as if they were troden. For ſo hot they be in that ſeaſon, that they gape again for aire, and hang the tongue out of their heads. And if the males do but flie over them, with the very breath and aire that commeth from them, they will be ready to
E conceive: yea and many times, if they doe but heare their call. And that which more is, ſo leacherous they are, that ſetting aſide the naturall affection and love to their yong covie, when they are broodie, (and in which regard they ſteale from the cock, & ſit apart in ſome ſecret and blind corner) yet if they hear once the Foulers chanterell comming toward the male, and that he doth call, preſently they will leave the neſt and ſuffer the egs to chill, and for very jealouſie crie again and call back the males, and offer themſelves to be troden, for feare they would goe to others. Nay more than that, their furie and rage that way many times is ſuch, that otherwhiles in this blind fit and fearfull luſt, not knowing where they are nor what they doe, they will light and ſettle upon the verie head of the Fouler. Alſo, if he chaunce to approach the neſt of the brood-hen, ſhe will run forth and be about his feet, ſhe will counterfeit that ſhee is verie heavie and cannot
F ſcarſe goe, that ſhe is weake and enfeebliſhed: and either in her running, or ſhort flight that ſhee taketh, ſhe will catch a fall, and make ſemblance as if ſhe had broken a legge or a wing: then will ſhe run out againe another way, and when he is readie to take her up, yet will ſhe ſhift away and eſcape, and ſo put him beſides his hope. And all this doth ſhe to amuſe the Fouler after her, untill ſhe have trained him a contrarie way from the covey. Now by that time that ſhee is paſt that

feare, and freed of the motherly care she had of her young ones, then will shee get into the furrow of some land, lie along on her backe, catch a clot of earth up with her feet, and therewith hide her whole bodie, and so save both her selfe and her couvey. To conclude, Partridges (by report) live sixteene yeeres. G

Chap. xxxiiii.

Of House-doves.

NExt after Partridges, the nature of Doves would be considered, since that they have in a manner the same qualities in that respect: howbeit, they bee passing chast, and neither male nor female chaunge their make, but keepe togither one true unto the other. They live (I say) as coupled by the bond of marriage: never play they false one by the other, but keep home still, and never visit the holes of others. They abandon not their owne nests, unlesse they be in state of single life or widdowhead by the death of their fellow. The females are verie meeke and patient: they will endure and abide their emperious males, notwithstanding otherwhiles they be very churlish unto them, offering them wrong and hard measure; so jealous be they of the hennes, and suspicious, though without any cause and occasion given: for passing chast and continent by nature they are. Then shall ye heare the cocks grumble in the throat, quarrell and complaine, and all to rate the hens: then shall ye see them pecke and job at them cruelly with their beakes; and yet soone after, by way of satisfaction and to make amends againe for their curst usage, they will fall to billing and kissing them lovingly, they will make court unto them and woo them kindly, they will turne round about many times togither by way of flatterie, and as it were by praiers seeke unto them for their love. As well the male as the female be carefull of their young pigeons, and love them alike: nay ye shall have the cocke oftentimes to rebuke, yea chastise the hen, if she keepe not the nest well; or having been abroad, for comming no sooner home againe to her young. And yet, kind they be to them, when they are about to build, lay, and sit. A man shall see how readie they be, to helpe, to comfort and minister unto them in this case. So soone as the egges be hatched, yee shall see them at the very first, spit into the mouthes of the young Pigeons salt brackish earth, which they have gathered in their throat, thereby to prepare their appetite to meat, and to season their stomacks against the time that they should eat. Doves and Turtles have this propertie, in their drinking not to hold up their bills between-whiles, and draw their necks backe, but to take a large draught at once, as horses and kine doe. H I K

Chap. xxxv.

Of Stockdoves.

SOme authors we have, who affirme that Stockdoves live ordinarily thirtie yeeres, and some untill they be fortie yeeres old. In which time, they find no infirmitie nor discommoditie at all but only this, That their clawes be overgrowne, which is a signe of their age: howbeit they may be pared without daunger. They have all of them one and the same manner of tune in their singing; and commonly they make three rests in their song, besides the fa-burden in the end, which is a kind of grone. All winter they be silent: in spring, they are lowd enough, and the woods resound with them. *Nigidius* is of opinion, that if a man call unto a Stockdove within-house as she is sitting upon her egs, she will leave her nest, and come at the call. They doe lay after midsummer. These doves and Turtles live eight yeeres. L

Chap. xxxvi.

Of Sparrowes.

COntrariwise, the Sparrow is but short lived, howbeit as leacherous as the best. The cocke Sparrow (by report) liveth but one yeare: the reason why men so thinke, is, because in the spring, there is not one of them found with a blacke bill, and yet in summer before, it began to be blacke. The Hens live somewhat longer. But to come againe to Doves, it is generally held, that they have a certaine sense and feeling of glorie: and a man would verily thinke, that they have a knowledge of their gay feathers, and how they are chaungeably coloured as a man looketh M

looketh upon them and as they ſtand. Moreover, they ſeem to take a pride in their flying, whiles they keepe a clapping of their wings and cutting of the aire every way, as if they had a pleaſure to be flying abroad. In which braverie of theirs, whiles they flap with their wings and keepe a glorious noiſe (which cannot be without the beating of their verie pinions togither) they are expoſed to the Faulcon and other hawkes, as priſoners faſt bound and tied: for otherwiſe if they would flie at libertie and eaſe, without keeping ſuch adoe with their clapping, they were much more ſwift of wing, than the verie hawkes that prey upon them. But the hawke like a verie theefe, lieth hidden among the boughes and braunches of trees, marketh the Dove how hee fetcheth his flight and taketh his pleaſure in the aire; and when he ſeeth his time (in all this glorie of his and the mids of his braverie) ſeizeth upon him and carieth him away.

Chap. xxxvii.

Of the Keſtrell.

TO prevent this daunger therefore, the Doves need to have with them the bird which is called Tinnunculus, *i.* a Keſtrill, or Stannell: for ſhe defendeth them, and (by a certaine naturall power that ſhe hath) skareth and terrifieth all other hawkes: inſomuch, as they cannot abide either to ſee her, or to heare her crie. Wherupon Doves above all others, love theſe birds. And (as men ſay) pigeons will not leave their owne dovecote to flie unto another, if in the foure corners thereof there be enterred foure Keſtrils aboveſaid, in foure new earthen pots well nealed, and never uſed before. But others have uſed meanes to keepe pigeons in their dovehouſe (for otherwiſe they be birds that love to be raunging and wandring abroad) namely, by ſlitting and cutting the joynts of their wings with ſome thin ſharpe peece of gold: for if you do not ſo, their wounds will feſter and be dangerous. And in verie truth, theſe birds be ſoone ſeduced and trained away from their owne homes: and they have a caſt with them to flatter and entiſe one another: they take a great delight to inveagle others, and to ſteale away ſome pigeons from their owne flockes, and evermore to come home better accompanied than they went foorth. Moreover, Doves have ſerved for poſts and courriers betweene, and been emploied in great affaires: and namely, at the ſiege of Modenna, *Decimus Brutus* ſent out of the towne letters tyed to their feet, as farre as to the campe where the Conſuls lay, and thereby acquainted them with newes, and in what eſtate they were within. What good then did the rampier and trench which *Antonius* caſt before the towne? To what purpoſe ſerved the ſtreight ſiege, the narrow watch and ward that he kept? Wherefore ſerved the river Po betweene, where all paſſages are ſtopped up as it were with net and toile, ſo long as *Brutus* had his poſts to fly in the aire over all their heads? To be ſhort, many men are growne now to caſt a ſpeciall affection and love to theſe birds: they build turrets above the tops of their houſes for dovecotes. Nay they are come to this paſſe, that they can reckon up their pedigree and race, yea they can tell the verie places from whence this or that pigeon firſt came. And indeed one old example they follow of *L. Axius* a gentleman ſometime of Rome, who before the civill warre with *Pompey*, ſold every paire of pigeons for * foure hundred deniers, as *M. Varro* doth report. True it is, that there goeth a great name of certaine countries where ſome of theſe pigeons are bred: for Campanie is voiced to yeeld the greateſt and faireſt bodied of all other places. To conclude, their manner of flying induceth and traineth me to thinke and write of the flight of other foules.

* 12. *lib.* 10. *ſ.*

Chap. xxxviii.

Of the gate and flight of birds.

ALl other living creatures have one certaine manner of marching and going, according to their ſeverall kind, unto which they keepe and alter not. Birds onely varie their courſe, whether they goe upon the ground or flie in the aire. Some walke their ſtations, as Crows and Choughs: others hop and skip, as Sparrows and Ouſels: ſome run, as Partridges, Woodcocks, and Snites: others again caſt out their feet before them, ſtaulke and jet as they go, as Storks and Cranes. Now for flying, ſome ſpread their wings broad, ſtirring or ſhaking them but now & then,

hanging and hovering with them all the while [as Kites:] others againe plie them as faſt; but the ends only of their wings, or the utmoſt feathers are ſeen to move [as the Chaffinch.] Ye ſhall have ſome birds to ſtretch out their whole wings and ſides, mooving them as they flie [as Ravens,] and others a man ſhall ſee in their flight to keepe them in, for the moſt part cloſe [as the Woodpeckers.] Some of them are knowne to give one or two claps with their wings at firſt, and then glide ſmoothly away, as if they were caried and borne up with the aire [as Linnets,] and others are ſeene (as if they kept ſtill the aire within their wings) to ſhoot up aloft & mount on high, to flie ſtreight forward, and to fall down again flat [as Swallowes.] Ye would think and ſay that ſome were hurled out of a mans hand with violence [as the Partridge,] and others againe to fall down plumb from on high [as Larkes,] or els to leape and jumpe [as the Quailes.] Duckes, Mallards, and ſuch like, ſpring preſently from the ground up aloft, and ſuddainly mount into the skie, even out of the very water: which is the cauſe, that if they chance to fall into thoſe pits wherein we take wild beaſts, they alone will make good ſhift to get forth and eſcape. The Geires or Vulturs, and for the moſt part all weightie and heavie foules, cannot take their flight and flie, unleſſe they fetch their run and biere before, or els riſe from ſome ſteepe place with the vantage. And ſuch are directed in the aire by their tailes. Some looke about them every way, others bend and turne their neckes in flying: and ſome flie with their prey within their tallons, and eat it as they flie. Moſt birds crie and ſing as they flie, yet ſome there bee contrariwiſe, that in their flight are ever ſilent. In one word, ſome flying carie their breaſts and bellies halfe upright: others againe bear them as much downward. Some flie ſidelong and bias: others directly forward, and follow their bils: & laſt of all there be that bend backward as they flie, or els bolt upright. In ſuch ſort, that if a man ſaw them all together, he would take them, not to bee one kind of creature, ſo divers and different are they in their motions.

G H I

Chap. xxxix.

Of Martinets.

MArtinets, which the Greekes call Apodes (becauſe they have little or no uſe of their feet) and others, Cypſeli; are very good of wing, and flie moſt of all others without reſt. And in very truth, a kind of Swallowes they be. They build in rocks and ſtonie cliffes. And theſe be they and no other, that are ſeene evermore in the ſea: for bee the ſhips never ſo remote from the land, ſaile they never ſo faſt and farre off, yee ſhall have theſe Martinets alwaies flying about them. All kinds elſe of Swallowes and other birds, do ſometime light, ſettle, and perch: theſe never reſt, but when they bee in their neaſt. For either they ſeeme to hang, or elſe lie along: and a number of ſhifts and deviſes by themſelves they have beſides, and namely when they feed.

K

Chap. xl.

Of the bird Caprimulgus, and the Shovelar.

THe Caprimulgi (ſo called of milking goats) are like the bigger kind of Owſels. They bee night-theeves; for all the day long they ſee not. Their manner is to come into the ſheepe-heards coats and goat-pens, and to the goats udders preſently they goe, and ſuck the milke at their teats. And looke what udder is ſo milked, it giveth no more milke, but miſliketh and falleth away afterwards, and the goats become blind withall.

L

There be other birds named Plateæ, i. Shovelars. Their manner is to flie at thoſe foule that uſe to dive under the water for fiſh: and ſo long will they pecke and bite them by the heads, untill they let go their hold of the fiſh they have gotten, and ſo they wring it perforce from them. This bird when his bellie is full of ſhell fiſhes that he hath greedily devoured, and hath by the naturall heat of his craw and gorge in ſome ſort concocted them, caſteth all up again: and at leaſure picketh out the meat, and eateth it againe, leaving the ſhels behind.

Chap. xli.

M

The naturall wit of ſome birds.

THe Hens of countrey houſes have a certaine ceremonious religion. When they have laid an egge, they fall a trembling and quaking, and all to ſhake themſelves. They turne about alſo

A alſo, as in proceſſion, to be purified, and with ſome feſtue or ſuch like thing, they keepe a ceremonie of hallowing, as well themſelves as their egs.

Chap. xlii.

Of the Linnet, Poppinjay or Parrat, and other birds that can ſpeake.

THe Linnets be in manner the leaſt birds of all others: howbeit they be very docible. Doe they will whatſoever they are taught and bidden, not onely in their voice, but alſo with their feet and bils, as if they were hands. In the territorie about Arelate, there is a bird called Taurus (becauſe it looweth like a Bull or Cow, for otherwiſe a ſmall bird it is.) There is another alſo named Anthus, which likewiſe reſembleth the neighing of horſes: and if haply by the approch of horſes they be driven from their graſſe wherof they feed, they will ſeeme to neigh; and
B flying unto them, chaſe them away, and ſo be revenged of them again. But above all other birds of the aire, the Parrats paſſe, for counterfeiting a mans voice: inſomuch, as they will ſeeme to parle and prate our very ſpeech. This foule commeth out of the Indies, where they call it Sittace. It is all the bodie over greene, onely it hath a collar about the necke of vermilion red, different from the reſt of her feathers. The Parrat can skill to ſalute Emperours, and bid *good morrow: yea, and to pronounce what words ſhe heareth. She loveth wine well, and when ſhe hath drunke freely, is very pleaſant, plaifull, and wanton. She hath an head as hard as is her beake. When ſhe learnes to ſpeake, ſhe muſt be beaten about the head with a rod of yron: for otherwiſe ſhee careth for no blowes. When ſhee taketh her flight downe from any place, ſhee lighteth upon her
C bill, and reſteth thereupon, and by that meanes favoureth her feet, which by nature are but weak and feeble, and ſo carieth her owne weight more lightly.

* χαῖρε.

There is a certaine Pie, of nothing ſo great reckoning and account as the Parrot, becauſe ſhe is not farre fet, but here-by neere at hand: howbeit, ſhee pronounceth that which is taught her more plainely and diſtinctly than the other. Theſe take a love to the words that they ſpeake: for they not onely learne them as a leſſon, but they learne them with a delight & pleaſure. Inſomuch that a man ſhall find them ſtudying thereupon, and conning the ſaid leſſon: and by their carefull thinking upon that which they learne, they ſhew plainely how mindfull and intentive they bee thereto. It is for certaine knowne, that they have died for very anger and greefe that they could not learne to pronounce ſome hard words: as alſo, that unleſſe they heare the ſame words repea-
D ted often unto them, their memorie is ſo ſhittle, they will ſoone forget the ſame againe. If they miſſe a word, and have loſt it, they will ſeeke to call it againe to remembrance; and if they fortune to heare the ſame word in the meane time, they will wonderfully joy thereat. As for their beautie, it is not ordinarie, although it be not very lovely. But ſurely amiable ynough they are in this, that they can ſo well reſemble mans ſpeech. It is ſaid, that none of their kind are good to bee made ſchollers, but ſuch onely as feed upon maſt: and among them, thoſe that have five toes to their feet. But even theſe alſo are not fit for that purpoſe, after the firſt two years of their age. And their tongue is broader than ordinarie: like as they bee all that counterfeit mans voice, each one in their kind: although it be in manner generall to all birds whatſoever to be broad tongued. *Agrippina* the Empreſſe, wife to *Claudius Cæſar*, had a Blackbird or a Throttle, at what time as I compi-
E led this booke, which could counterfeit mans ſpeech; a thing never ſeene nor knowne before. The two *Cæſars* alſo, the young princes (to wit, *Germanicus* and *Druſus*) had one Stare, and ſundrie Nightingales, taught to parle Greeke and Latine. Moreover, they would ſtudie upon their leſſons, and meditate all day long: and from day to day come out with new words ſtill, yea, and were able to continue a long ſpeech and diſcourſe. Now for to teach them the better, theſe birds muſt be in a ſecret place apart by themſelves, where they can heare no other voice: and one is to ſit over them, who muſt repeat often that which hee would have them to learne, yea, and pleaſe them alſo with giving them ſuch meat as they beſt love.

Chap. xliii.

F

The underſtanding and wit that Ravens have.

LEt us not defraud the Ravens alſo of their due praiſe in this behalfe, conſidering, that the whole people of Rome hath teſtified the ſame not onely by taking knowledge, but alſo by a publicke revenge and exemplarie puniſhment. And thus ſtood the caſe. In the daies of *Ti-*

berius the Emperour, there was a yong Raven hatched in a neaſt upon the church of *Caſtor* and G
Pollux, which, to make a triall how he could flie, tooke his firſt flight into a ſhoomakers ſhop juſt overagainſt the ſaid church. The maiſter of the ſhop was well ynough content to receive this bird, as commended to him from ſo ſacred a place, and in that regard ſet great ſtore by it. This Raven in ſhort time being acquainted to mans ſpeech, began to ſpeake, & every morning would flie up to the top of the Roſtra or publicke pulpit for Orations, where, turning to the open Forum and market place, he would ſalute and bid Good morrow to *Tiberius Cæſar*, and after him, to *Germanicus* and *Druſus* the young princes, both *Cæſars*, every one by their names: and anon the people of Rome alſo that paſſed by. And when hee had ſo done, afterwards would flie againe to the ſhoomakers ſhop aforeſaid. This dutie practiſed he and continued for many years together, to the great wonder and admiration of all men. Now it fell out ſo, that another ſhoomaker, who H
had taken the next corviners ſhop unto him, either upon a malicious envie that hee occupied ſo neere him, or ſome ſuddaine ſplene and paſſion of choller (as he would ſeeme to plead for his excuſe) for that the Raven chaunced to meute a little, and ſet ſome ſpot upon a paire of his ſhoes, killed the ſaid Raven. Whereat the people tooke ſuch indignation, that they riſing in an uprore, firſt drove him out of that ſtreet, and made that quarter of the cittie too hote for him: and not long after murdered him for it. But contrariwiſe, the carkaſſe of the dead Raven was ſolemnely enterred, and the funerals performed with all ceremoniall obſequies that could bee deviſed. For the corps of this bird was beſtowed in a coffin, couch, or bed, and the ſame bedecked with chaplets and guirlands of freſh floures of all ſorts, carried upon the ſhoulders of two blacke Mores, with minſtrels before, ſounding the haut-boies, and playing on the fife, as farre as to the funerall fire; which was piled and made in the right hand of the cauſey Appia, two miles without the cit- I
tie, in a certain plaine or open field called Rediculi. So highly reputed the people of Rome that readie wit and apt diſpoſition in a bird, as they thought it a ſufficient cauſe to ordaine a ſumptuous buriall therefore: yea, and to revenge the death thereof, by murdering a cittizen of Rome in that citie, wherein many a brave man and noble perſon died, and no man ever ſolemnized their funerals: in that citie I ſay which affoorded not one man to revenge the unworthie death of that renowned *Scipio Æmylianus*, after he had woon both Carthage and Numantia. This happened the fifth day before the Calends of Aprill, in the yeare when *M. Servilius* and *C. Ceſtius* were Conſuls of Rome. Moreover, even at this very preſent, when I wrate this hiſtorie, I ſaw my ſelfe a Crow belonging to a certaine knight of Rome, who brought him out of the realme of Grena- K
do in Spaine, which was a very ſtrange and admirable bird, not onely for the exceeding black colour of his feathers, but alſo for that he could pronounce and expreſſe ſo perfectly many words and ſentences together, and learned ſtill new leſſons every day more than other. It is not long ſince that there went a great bruit and fame of a notable hunter in Erizena a countrey of Aſia, whoſe name was *Craterus Monoceros*: that uſed to hunt by the meanes and helpe of Ravens. His manner was to carrie with him theſe Ravens into the forreſt, perching upon his ſhoulders and his hunting hornes: and theſe would ſeeke out and put up other wild ones, and bring them to him. Thus by cuſtome & uſe he brought his hunting to this good paſſe, that when he returned homeward out of the forreſt, the wild as well as the tame would accompanie him. Some have thought it worth the ſetting downe upon record, how there was a Raven ſeene in time of a great drought L
when water was hard to come by, for to caſt ſtones into the bucket belonging to a ſepulchre, wherein there was ſome raine water remaining toward the bottome, but ſo deepe, that hee could not reach unto it: and being afraid to go downe into it, by heaping up many ſtones, he brought the water to riſe ſo high, as he might drinke ſufficient with eaſe.

Chap. xliiii.

Of *Diomedes his birds.*

NEither will I overpaſſe the birds called Diomedeæ, which king *Iuba* nameth Cataractæ. M
Toothed they are, as hee ſaith; and they have eies as red and bright as the fire: otherwiſe their feathers be all white. Who alſo affirmeth, that they evermore have two captains, the one for to lead the vaward, and the other for the reregard. With their bils they dig little trenches and gutters in the ground: over which from ſide to ſide they lay ſtickes acroſſe like hurdles, very

arti-

A artificially, and then cover the same over with the earth that they cast forth before: under which they breed. Every one of these trenches hath two dores: the one regarding the East, at which they goe forth to their meat: and the other looking into the West, by which they come in again after their returne. Whensoever these birds would meute, they flie ever full into the wind, because they would not file themselves. Found they be in one place of the world, and but in one: namely in a certaine Island, ennobled, as we have written before, for the tombe and temple of *Diomedes*, and it lieth upon the coast of Apulia. These birds are like unto the white Sea-mewes with a black cop. Their manner is to crie with open mouth unceſſantly at any strangers that come aland, save onely Grecians, upon whom they will seeme to fawne and make signes of love and amitie, in all flattering wise. A wonderfull thing that they should discerne one from another, and give such
B friendly welcome to them, as descended from the race of *Diomedes*. Their manner is every day to charge their throat and wings full of water, and all to drench therewith the said temple of *Diomedes*, in signe of purification. And hereupon arose the fabulous tale, That the companions of *Diomedes* were turned into these birds.

Chap. xlv.

What birds are not apt to learne, and will not be taught.

AND now that we are in this discourse of wit and capacitie, I must not omit to note, That of birds, the Swallow; and of land beasts the Mouse and the Rat, are very untoward and can-
C not be brought to learne. Whereas we see great Elephants readie to doe whatsoever they are commanded: the furious Lions brought to draw under the yoke: the Seales within the sea, and so many sorts of fishes grow to be tame and gentle.

Chap. xlvi.

The manner of birds in their drinking.

BIrds drinke sucking, and those which have long necks, make staies between, and every while hold up their bill from the water, as if they would poure the water downe their throat. The
D bird Porphyrio alone seemeth to bite the water as he drinketh. And this bird hath this propertie by himselfe, to dip and wet all his meat ever and anon in water, and then with his foot in lieu of an hand, to reach it unto his bill. The best of this kind are in Comagene. Their bils and long shankes that they have, be red.

Chap. xlvii.

Of the foule Himantipus, the Onocrotali, and other strange foules.

LIke in that respect unto the Porphyrio, is the Himantipus: a bird farre lesse in bodie, but full as long legged, and stalking as high. They are bred in Ægypt: and goe upon three toes
E to a foot. Their most feeding is upon flies. In Italie they will not live many daies. All great and heavie foules live of seeds and corne. They that flie on high prey upon flesh. Among water-fouls, the Cormorants use to devour that which other birds either disgorge or meute. The Onocrotali much resemble Swans, and surely they might bee thought the very same and no other, but that they have within their throat another kind of gizzer besides their craw: in which, these foules being unsatiable, bestow all that ever they can get; whereby it is of a wonderfull great capacitie, and will receive very much. Now when they have done their ravening, & filled this poke, soone after they conveigh it from thence by little and little into their mouth, and there chew the cud, untill after it bee well prepared, they swallow it downe into the verie craw and bellie indeed. These foules are to bee found in the parts of Picardie and Normandie in Fraunce, ly-
F ing upon the North Ocean. In Hercinia, a forrest of Germanie, wee have heard that there bee straunge kinds of birds, with feathers shining like fire in the night season. In other respects, I have nothing to say of them worth the writing, save onely they are of some name, for beeing farre fetched.

Chap.

G

Chap. xlviii.

☞ *The names and natures of many birds.*

Of water-foules, the Phalerides are thought in Seleucia of the Parthians, and alſo in Aſia, to be the daintieſt. Likewiſe, the Feſant Hens of Colchis, which have two eares (as it were) conſiſting of feathers, which they will ſet up and lay downe as they liſt. The Ginnie or Turkey Hens, in a part of Affricke called Numidia be in great requeſt, as alſo throughout all Italie now adaies. *Apicius*, the moſt roiotous glutton & bellie-god of his time, taught men firſt, that the tongue of Phœnicopterus, was a moſt ſweet and delicate peece of meat. The Moore-hen of Ionia is much commended and in high eſtimation. This bird ſo ſoone as ſhe is taken priſoner, H looſeth her voice, and is mute: for otherwiſe ſhe is vocall and lowd ynough: and in old time was reputed a rare and ſingular bird. But now there be caught of them in Fraunce and Spaine, yea, and among the Alpes: where alſo the Plungeons or bald-Ravens bee, which heretofore were thought proper & peculiar unto the Baleare Iſlands: like as the Pyrrhocorax [*i.* the red Raven] with the yellow bill, was ſuppoſed to breed onely among the Alpes; and with it the Lagopus, a daintie bird and moſt pleaſant in the diſh. And this name it tooke in Greeke, becauſe it is rough-footed and haired like the Hares foot: otherwiſe all over white, and as big as a Pigeon. Have her out of the ground, under which ſhe breedeth, you ſhall hardly get her to feed: neither will ſhe be made tame, live ſhe never ſo long: kill her once, the bodie preſently will rot and putrifie. There is another beſides of that name, and differeth from Quailes onely in bigneſſe, for it is greater I than the Quaile: and with a yellow ſauce of ſaffron it is a moſt delicate peece of meat. *M. Egnatius Calvinus* governour of the parts about the Alpes, reporteth, that hee hath ſeene there the Ibis, a bird proper to the land of Ægypt.

Chap. xlix.

☞ *Of new birds, and ſuch as are holden for fabulous.*

During the civile warres betweene *Othe* and *Vitellius*, and namely, about the time of the journey or battell at Bebriacum, beyond the Po: there were theſe new-birds (for ſo they be called ſtill at this day) brought into Italie. Like they be to Thruſhes or Maviſſes, ſome- K
what leſſe than Houſedoves, pleaſant in the eating. The Baleare Iſlands ſends us another Porphy-
Chapter 46. rio, better than that *beforenamed. Where the Buzards alſo, a kind of Hawke, are held for excel-
lent meat, and ſerved up at the table. Likewiſe the Vipio, for ſo they call the leſſe kind of Crane. As for the foules called Pegaſi, headed like horſes; and the Griffons, which are ſuppoſed to have long eares, and a hooked bill, I take them to bee meere fables: and yet they ſay, that the Pegaſi ſhould be in Scythia, and the Griffons in Æthyopia. Moreover, I thinke the ſame of the Tragopanades, which many men affirme to bee greater than the Ægle; having crooked hornes like a Ram on either ſide of the head, of the colour of yron, and the head onely red. As touching the birds Syrenes, I will never beleeve there be any ſuch, let *Dino* the father of *Clitarchus* that renowmed writer, ſay what he will: who avoucheth for a truth, that they be in India: and that with their L
ſinging they will bring folke aſleepe, and then flie upon them and teare them in peeces. He that will give credite to theſe fables, may even as well beleeve that dragons forſooth taught *Melampus* by licking his eares, how to underſtand the language of birds when they chaunt and ſing upon trees, or crie and chirpe in the aire: likewiſe the tales that *Democritus* telleth, who nameth certain birds, of whoſe bloud mingled together, and ſuffered to corrupt, there is engendered a ſerpent, which whoſoever eateth, ſhall know what birds ſay one to another in their ſpeech: and namely, the ſtrange things that hee telleth of the Larke above the reſt. For verily without theſe fabulous lies, mens heads be occupied ynough, and too much to, about the Auguries onely and preſages of birds; that they have no need to buſie and trouble their braines about theſe toies. *Homer* ma-
keth mention of certaine birds called Scopes: but I cannot conceive thoſe Satyricall geſticula- M
tions of theirs like Antikes when they are perched, which ſo many men talke of: neither doe I thinke otherwiſe, but that theſe birds are out of knowledge now adaies. And therefore better it is farre to write of thoſe which we know.

Chap.

A

Chap. L.

Who first devised to cram Hens. Who invented Mues and Coupes to keepe foule in.

THey of the Iſland Delos began the cramming of Hens and Pullein firſt. And from them aroſe that deteſtable gourmandiſe and gluttonie to eat Hens and Capons ſo fat and enterlarded with their owne greaſe. Among the old ſtatutes ordained for to repreſſe inordinate feaſts, I find in one act made by *C. Fannius*, a Conſull of Rome, eleven yeares before the third Punicke warre, an expreſſe prohibition & reſtraint, That no man ſhould have his table ſerved with any foule, unleſſe it were one Hen, and no more, and the ſame a runner onely, and not fed up and
B crammed fat. The braunch of this one ſtatute was afterwards taken forth and inſerted in all other acts provided in that behalfe, & went currant through all. Howbeit, for all the law ſo well ſet down, there was a ſtarting hole found to delude and eſcape the meaning therof, namely, to feed Cockes and Capons alſo with a paſt ſoked in milk & mead together, for to make their fleſh more tender, delicate, and of ſweeter taſt: for that the letter of the ſtatute reached no farther than to Hens or Pullets. As for the Hens, they onely bee thought good and well ynough crammed, which are fat about the necke, and have their skin plumpe and ſoft there. Howbeit, afterwards our fine cookes began to looke unto their hind-parts about the rumpe, and chuſe them thereby. And that they ſhould make a greater ſhew in the platter, they ſlit them along the chine, and lay their legs out at large, that they might take up the whole dreſſer bourd. The Parthians alſo have taught our cooks
C their own faſhions. And yet for all this fine dreſſing and ſetting out of meat, there is nothing that pleaſeth and contenteth the tooth of man in all reſpects; whiles one loveth nothing but the leg, another liketh and praiſeth the white brawne alone, about the breaſt bone. The firſt that deviſed a Barton and Mue to keepe foule, was *M. Lenius Strabo*, a gentleman of Rome, who made ſuch an one at Brindis, where he had encloſed birds of all kinds. And by his example we began to keep foules within narrow coupes and cages as priſoners, to which creatures Nature had allowed the wide aire for their ſcope and habitation.

Chap. LI.

D *Of Æſopes proud platter.*

BVt in the relation and report of this argument, notorious above all the reſt in our memorie is that platter of *Clodius Æſopus*, the plaier of Tragedies, which was eſteemed worth * ſixe hundred Seſtertia. In this one charger he ſerved up at the bourd all kind of birds that either could ſing or ſay after a man: and they coſt him ſixe hundred Seſterces apeece. And ſurely it was no delight and pleaſure that he ſought herein to content the tooth, but only that he would have the name to eat the reſemblers of mans voice: without any conſideration and regard that hee had of all that great riches and revenues of his owne, which himſelfe had gotten by his tongue, and by counterfeiting the ſpeech of others. A father verily worthie ſuch a ſon, who, as we ſaid before, devoured thoſe precious pearles. And to ſpeake a truth, it is hard to judge whether of
E them twaine plaied the beaſt more, the father or the ſonne. But that it ſeemeth leſſe pride and prodigalitie to ſwallow downe the throat the greateſt riches of Nature, than to chaw and eat at a ſupper mens tongues, that is to ſay, thoſe birds that could pronounce our language.

* 1.600000 Seſtertij, 150000 deniers.

Chap. LII.

The engendring of birds: and what foure-footed beaſts lay egges as well as they.

THe generation of birds ſeemeth alwaies to bee after one and the ſame manner. And yet therein is to be found ſome ſtraunge and extraordinarie worke. Like as there be four foo-
F ted beaſts knowne alſo to have egs, namely, the Chamæleons, Lizards, and ſuch as we named among Serpents. Of foules, thoſe that have hooked clawes and tallons, are but barren that way, and lay few egs. Only the Keſtrell laieth foure at a time. And verily Nature hath well provided in all the kind of foules, That the mightier ſhould be leſſe fruitful than the weaker and thoſe that flie from the other. The Oſtriches, Hens, Partridges, and Linnets, are great laiers. As touch-

ching

ching the manner of their engendring, it is performed two waies: for either the female coucheth downe, as doe our hens; or else ſtand up on their feet, as doe the cranes. Of egs, ſome be white, as thoſe of Doves and Partridges; others, be pale and yellowiſh, as thoſe of water-foule: ſome be ſpotted, as thoſe of the Turkie-hens: others againe red; and ſuch egs Feaſants lay, and Keſtrils. G

All birds egges within the ſhell, are of two colours. In water-foules, the yolke is more than the white, and the ſame is more wan and duskiſh than in others. The egges of fiſhes are of one colour, and therein is no white at all. Birds egges are brittle ſhelled, by reaſon of their heat. Serpents egges are more tough becauſe of cold: but they of fiſhes are more ſoft and tender, for that they be ſo liquid. Thoſe of fiſhes and ſuch creatures as live in water, have round egges ordinarily: others be long and pointed at one end in the top. Birds lay their egges with the rounder end H comming forward: their ſhell is ſoft whiles they be warme and a laying, but preſently they harden by peecemeale as they come forth. *Horatius Flaccus* is of opinion, that the longer the egge is, the better taſt it hath. The rounder egge prooves to be the hen commonly, the reſt will be cockes. There is found in the * top or ſharper end of an egge within the ſhell, a certaine round knot reſembling a drop or a navill, riſing above the reſt, which they call a Kinning.

* Or rather, in the crown and breader end, as our wives ſay.

Chap. liii.

The engendring of egges: the ſitting of birds, and their manner of generation.

I

Some birds there be, that tread all times of the yeare; and lay egs but only two moneths in mid winter: and of thoſe, pullets lay more than old hennes, but they be leſſe, eſpecially the firſt and laſt of one laiter. So fruitfull they be, that ſome of them will lay threeſcore egs ere they give over: ſome, everie day; others, twice in one day: and ſome will over-lay, untill they be ſo wearie and feeble withall, that they will never lay more, but die withall. The little ſhort legged grig hens, called Hadrianæ (that came from Hadria) are counted beſt. Doves lay and couvey ten times in the yeere, ſome of them eleven: and in Ægypt there are found that give not over in the twelvemoneth, even at mid-winter in December. Swallowes, Ouſels, Quoiſts or Ringdoves, and Turtles, lay and ſit twice in the yeare: other birds ordinarily but once. Thruſhes and Blackbirds build their neſts of mud and clay, in trees and buſhes one by another, ſo neere as if they were K linked togither: and lightly they engender in ſome corner out of the way. After the hen is troden, within ten daies commonly the egs knit within her bellie, are come to perfection and readie to be laid. Howbeit if hens have ſome wrong done unto them, or if a man chaunce to pluck a feather or quill from a pigeon at that time, or doe them ſome ſuch injurie, it will bee longer ere they lay.

All egges have within them in the mids of the yolke, a certaine drop as it were of blood, which ſome thinke to be the heart of the chicken, imagining that, to bee the firſt that in everie bodie is formed & made: and certainly a man ſhall ſee it within the very egge to pant and leape. As for the chick, it taketh the corporall ſubſtance, and the bodie of it is made of the white wateriſh liquor in the egge: the yellow yolke ſerveth for nouriſhment: whiles the chick is unhatched L and within the egge, the head is bigger than all the bodie beſides: and the eies that be compact and thruſt togither, be more than the verie head. As the chick within groweth bigger, the white turneth into the mids, and is encloſed within the yolke. By the twentie day (if the egs be ſtirred) ye ſhall heare the chicke to peepe within the verie ſhell: from that time forward, it beginneth to plume and gather feathers: and in this manner lieth it within the ſhell, The head reſting upon the right foot, and the ſame head under the right wing: and ſo the yolke by little and little decreaſeth and faileth. All birds are hatched with the feet forward, contrarie to other creatures. Some hens there be, that lay all their egs with two yolkes; and of them be hatched two chickens otherwhiles, as *Cornelius Celſus* writeth: but the one of them is bigger than the other. Howbeit, others ſay, it is impoſſible that of one egge ſhould come two chickens. Moreover, it is held for a M rule, that there ſhould not be put under a brood-hen above 25 egs at one time to ſit upon. After the midwinter, hens begin to lay and ſit. The beſt brood is before the ſpring Æquinoctiall. Thoſe that be hatched after midſummer, never come to their full and kind bigneſſe: and evermore the later the leſſer.

Chap.

A

Chap. liiii.

The infirmities and impediments incident to Brood-hens, and the remedies.

THe best egges that can be put under hens when they sit, are those that were laid ten daies before at the utmost: for neither old egs, nor yet verie new laid, be good for that purpose. After that the hen hath sitten foure daies, take an eg from under her, hold it in one hand by the narrow end, and look between you and the light with the other over it; if it be clear through and of one colour, it is supposed to be naught and will never proove a chicke, and therefore put
B another in place therof. Another experiment there is by water: The addle egge will flote above, as emptie; the sound and good, will sinke to the bottome: and such therefore beeing full, are to be set under the hen. When ye would try whether an egge be good or bad in this case, our countrey wives say, you must not shake them in any hand, for if the vitall veines and parts be broken and blended togither, they will never proove. Moreover, this must alwaies be looked unto, that yee begin to set an hen after the change of the moone: for if you set her in the waine, the egges will be addle and never come to be chickens. The warmer that the weather is, the sooner will she hatch: and therefore it falleth out, that in summer ye shall have her abroad with her brood upon the nineteenth day; in winter many times it wil be 25 daies first. If it thunder while she is broodie, the egges will proove addle: yea and if the hen chaunce but to heare an hawke crie, they will be
C marred. The remedie against thunder, is to put an iron naile under the straw of the hens nest, or else some earth newly turned up with the plough. Over and besides, there be some egs that will come to be birds without sitting of the hen, even by the worke of Nature onely, as a man may see the experience in the dunghils of Ægypt. There goeth a pretie jeast of a notable drunkard of Syracusa, whose manner was when he went into the taverne to drinke, for to lay certaine egges in the earth, and cover them with mould: and hee would not rise nor give over bibbing, untill they were hatched. To conclude, a man or woman may hatch egges with the very heat onely of their bodie.

D

Chap. lv.

The Auguries and Presages of Egges.

LIvia Augusta the Empresse, wife sometime of *Nero*, when she was conceived by him, and went with that child [who afterwards prooved to be *Tyberius Cæsar*,] beeing very desirous (like a young fine ladie as she was) to have a jolly boy, practised this girlish experiment to foreknow what she should have in the end: Shee tooke an egge, and ever carried it about her in her warme bosome, and if at any time she had occasion to lay it away, she would convey it closely out of her owne warme lap unto her nources, for feare it should chill. And verily this presage prooved true: the egge became a cock-chicken, and she was delivered of a sonne. And hereof (it may well be) came the devise of late, to lay egs in some warme place, and to make a soft fire
E underneath of small straw or light chaffe to give a kind of moderate heat; but evermore the egs must be turned with a man or womans hand, both night and day; and so at the set time, they looked for chickens and had them. It is reported besides of a certaine poulter, who had a secret by himselfe, wherby he could tell surely and never misse, which egge would be a cock-chicken, which a hen: also of many hens that hee kept, which was every hens egge if he did but see it. We have heard moreover, that when a brood-hen chaunced to die, the cockes that used to tread her, were seen to go about with the chickens one after another by turnes, and to doe every thing like to the very hen indeed that hatched them: and all that while to forbeare once to crow. But above all it is a sport alone, to see the manner of an hen that hath sitten upon ducks egges and hatched them, how at the first she will wonder to have a teeme of ducklings about her, and not acknow-
F ledge them for her owne: but soone after, she will clucke and call this doubtfull brood to her, verie carefully and diligently: but at the last, when shee perceiveth them (according to their kind) to take the water and swim, how she will mourne and lament about the fish-poole, that it would pitie ones heart to see them what mone they will make.

Chap.

G

Chap. lvi.

Which be the best Hens.

A Man shall know a good and kindly hen by her comb, when it is streight and upright: otherwhiles also double crested: also by the pinion feathers blacke, the upper plume reddish. Such a hen will be red also about the head and bill; and have an odde toe to her feet: yea and sometime that odde one to lie crosse overthwart the other foure. In case of sacrifices and religious use, they are not thought good nor allowable, which have becke and feet, yellow. For divine service and secret mysteries celebrated in covert to the goddesse *Ops*, the black are allowed for good. There is also a dwarfish kind of * hens, that are extraordinarie little, and yet fruitfull, (a thing not seene in any other kind of foule) they lay and misse not, but sildome sit they on any egs: and if they doe, it is hurtfull for them.

* Grig-hens.

H

Chap. lvii.

The maladies that hens be subiect unto, and the remedies.

THat which troubleth all the kind of them, is a certaine distillation of a phlegmaticke humour, which causeth the pip; and most of all between harvest time and vintage. The cure is, to keepe them hungrie and long fasting: also to let them lie or perch in a smokie place, especially where the fume is made of bay leaves, and the herb Savine. It is good moreover, to draw a little quill or feather through their nosthrils acrosse; and to remoove or shift it every day. As for their meat, let it be some cloves of garlicke shred among their corn, or else let their meat be well infused and steeped in water, wherein an owle hath washed and bathed her selfe; or else sodden with the seed of Brionie, or the wild white vine: besides such other medicines as are daily in use.

I

Chap. lviii.

The manner how foules doe conceive, and what number of young ones they commonly doe hatch.

DOves have this propertie by themselves, to bill one another and kisse before they tread. They doe lay for the most part two egges. Thus Nature hath disposed, that some should breed often, and few: others, should hatch many togither at once. The Ringdoves or Quoists, and Turtles, ordinarily doe lay three egs; and lightly they sit and hatch but twice a yeer: and that is, if their first brood came not to perfection, but miscarried and was not reared up. And albeit they lay three egges, yet they never hatch but twaine: the third that is addle, they call in Latine *Vrinum*. The female Ringdove sitteth ever from noon untill the next morning; the male maketh up the rest of the day. House-doves breed evermore one cocke pigeon, and another hen. The male is hatched to day, and the female to morrow. In that kind they sit both, the cocke all day, and the hen by night: and usually upon the twentieth day they hatch. They lay within five daies after they be troden. And in summer time verily, yee shall have them in the space of two moneths bring three paire of pigeons; for then they use to hatch by the 18 day: and presently they conceive againe. So that a man shall oftentimes find new-laid egges even among the yong pigeons: and otherwhiles it is seen, that whiles some are readie to flie, others peepe newly out of their shell. And these young birds, within five moneths will laie themselves. Now the nature of these hen-doves is (if they want a cocke) to tread one another, and hereof they come to laie barren egges, whereof nothing will be engendred: and such the Greekes call Hypenemia, *id est*, wind-egges.

K

L

Chap. lix.

Of the Peacocke, and Geese.

M

THe Pea-hen falleth to laie and breed after she is three yeeres old. In the first yeere, she begins with one or two egs: the yeere following, she riseth to foure or five: in the rest, she reacheth to twelve and no more. When she laieth, her manner is to rest two or three daies between everie egge. And thrice a yeare she doth keepe this order, namely, if her egges be taken from

A from her, and put under hens for to be sitten upon: for why, the Peacockes will breake them if they can meet with them, becausse they cannot misse and spare the Peahens companie whiles they are broodie and sitting: which is the cause that they are wont to lay by night, or in some secret corner out of the way, and that from an high place where they pearch: and then, unlesse there be good heed taken that the egges be latched in some soft bed underneath, they are soone broken. One Peacocke is sufficient to goe with five wives: for when there is but twaine [the villaine is so leacherous] with overmuch treading he hindereth their laying, and marreth the knot of egges which is engendred within them. The Peahen doth hatch in 28 daies, or in thirtie at the farthest.

Ganders and Geese engender togither in the very water. Geese lay ordinarily in the spring:
B or if they were troden about mid-winter, then ye shall have them lay after the winter Sunsteed, some fortie daies or very neere. They have usually two laiters in the yeere, namely, if hens hatched their former egges. The most that they hatch at one sitting, is sixteen; and the fewest, seven. If a man steale their egges from them, they lay still, and never give over till they be ready to burst with laying. No birds egges but their own will they hatch. The most profitable way, is to set them upon nine or eleven. The females onely sit, and that for the space of thirtie daies, unlesse it be warme weather, and then they will have done by 25. If one of their goslings be stung never so little with a nettle, it will die of it. Their owne greedie feeding also is their bane; for one while they will eat untill they burst againe, another whiles kill themselves with straining their owne selves: for if they chaunce to catch hold of a root with their bill, they will bite and pull so hard
C for to have it, that many times they breake their own necks withall, before they leave their hold. Against the stinging of nettles, the remedie is, that so soone as they be hatched, there be some nettle roots laid under their nest of straw.

Chap. lx.

Of Herons and Bittours: and the best way to keepe egges long.

OF Herons be three sorts, *Leucon, *Asterias, and *Pellon. These last engender with much paine and difficultie. And as for the males verily, they crie againe for anguish, and the blood starts out of their eyes in the act of treading. And with as much adoe and trou-
D ble doe the females lay, after they be knit with egge. The Ægle and the most part of greater fouls, sit thirtie daies: whereas the lesse continue but twentie, as the Kite and the Hawke. The Kite usually hatcheth but one at a time, and never above three: but that kind which is called Ægolios, sometimes foure. The Raven also now and then, five: and those coove as many daies. Whiles the female Crow sitteth, the male feedeth her. The Piot, ordinarily bringeth foorth nine Piannets: the fig-pecker Melancoryphus, above twentie, but evermore an odde one: and there is not a bird that goeth therin above her. Lo how Nature is willing to multiply the race of little birds! The young Swallowes are at the first, blind, and so are all such as are hatched many in number. Wind-egs, which we call Hypenemia, come either by the mutuall treading of hens one another, by an imaginarie conceit of the male, or els by dust. And such egs not only Doves do bring, but
E house Hens also, Partridges, Peahens, Geese, and Brants, or the female Barganders. Now these egs are barren as one would say, and never proove birds, lesse than others, not so pleasant in tast, and besides more moist. Some are of opinion, that the wind will engender them: for which cause also they are called Zephyria [i. West-wind-egs:] and verily such egs are seen only in spring, when that wind bloweth. Addle egges, which some called Cynosura, are they that chill upon the nest, when the hen is gone and giveth over sitting. Egges steeped in strong vinegre will come to be so soft, that they will passe and be drawne through the ring of a mans finger. The best way to keepe egs, is in bean-meale or floure; and during winter, in chaffe; but for summer time, in bran. It is thought, if they lie in salt, their substance will wast and consume to nothing within the shell.

* A Criell, or dwarfe Heron.
* A Bittor.
* A carion Heron.

F

Chap. lxi.

What bird alone bringeth forth a living creature, and feedeth it with milke.

THe Reremouse or Bat, alone of all creatures that flie, bringeth forth young alive: and none but she of that kind hath wings made of pannicles or thin skins. She is the onely bird that

ſuckleth her little ones with her paps, and giveth them milke: and thoſe ſhe will carrie about her two at once, embracing them as ſhe flieth. It is ſaid alſo, that ſhe hath no more but one joint of the haunch, without any in the knee or feet; & that they take greateſt delight to feed upon gnats. G

Chap. lxii.

Of Vipers: their manner of generation and bringing forth young: and what land beaſts doe lay egges.

MOreover, among creatures of the land, Serpents lay egges: whereof as yet we have not written. As they engender togither, they clip and embrace, and ſo entangled they be and enwrapped one about the other, that a man who ſaw them, would thinke they were one ſerpent with two heads. In the very act of generation, the male (viper) thruſteth his head into the mouth of the female; which ſhe (for the pleaſure and delectation that ſhe taketh) gnaweth and biteth off. No land creature els but ſhee hath egs within her bellie, of one colour and ſoft, like as fiſhes have. Now after three daies they be quick, and then come forth as they be hatched; but no more than one at once everie day: and twentie commonly ſhe hath. When ſhe is delivered of the firſt, the reſt (impatient of ſo long delay) eat through the ſides of their dam, and kill her. As for other ſerpents, they lay their egges linked and chained togither, and ſo ſit upon them on the land: but they hatch them not untill the yeere following. The Crocodiles ſit by turnes, the male as well as the female. But I thinke it good to treat alſo of the generation of other land creatures. H

Chap. lxiii. I

The generation of living creatures upon the land.

OF all living creatures two-footed, a woman only bringeth foorth her young quicke. Men and women both, and none but they, repent at firſt the loſſe of their maidenhead. A very preſage (no doubt) of a life to enſue full of trouble and miſerie, that thus ſhould begin with repentance. All other creatures have their ſet times and certaine ſeaſons in the yeare when they engender, as hath been ſhewed before: but all is one with us, and no houre of day or night comes amiſſe. Other creatures know when they have enough, and reſt ſatisfied: we only are inſatiable that way, and cannot ſee to make an end. The Empreſſe *Meſſalina*, wife of *Claudius Cæſar*, thinking it the onely victorie for a Ladie and Queene to excell in this feat, choſe the moſt gallant curtiſan and commoneſt ſtrumpet in all Rome, to trie maſteries and to contend with for the beſt game: and in verie truth, ſhe woon the prize: for in the ſpace of 24 houres ſhe outwent her [a beaſtly thing to be written] no fewer than 25 times. As for men, they have deviſed in the practiſe of this filthie act, even to abuſe ſome parts againſt kind: and women (unnaturall as they be) haue the caſt to deſtroy within them the unripe and untimely fruit of their owne bodie. Certes in this behalfe, how much worſe and hurtfull be we, than the wild & ſavage beaſts of the field? *Heſiodus* writeth, that men are more given to luſt in winter, than in ſummer; and women contrariwiſe. Elephants, Camels, Tigres, Onces, Rhinoceros, Lyons, Hares, Cunnies, and generally all beaſts which have their genitall parts from-ward, turne taile to taile to the female in the act of generation. As for Camels, they go into the deſert, or at leaſtwiſe ſeeke ſome corner, when they would engender: and daungerous it is for one to take them in the manner. They continue in this action one whole day togither: and ſo doe none els that are whole hoofed. In foure-footed beaſts, the males are ſet into the heat of luſt by ſenting and ſmelling. Dogs and Bitches, Seales, and Wolves, likewiſe turne away, and in the mids of the action bee tied one to the other, even againſt their wills and cannot helpe it. The females of the moſt of theſe before-named, begin to ride the males firſt, for to provoke their luſt: but of the reſt, the males leape the females at the firſt. Beares (as we ſaid before) lie along both, as man and woman. Hedgehogs ſtand both upright and claſpe one another when they engender. The hee-Cat ſtandeth on his feet, and the ſhee lieth under him. Foxes lie upon their ſides, and ſo the bitch embraceth the male Fox. Kine and Hinds cannot well endure the violence of the Bulls and the Stags in this buſines, and therefore they are ever going when they doe engender. Stags go from one Hind to another, and then come againe to the firſt; and this doe they in courſe. Lizards, as all other creeping creatures that have no feet, wind one about another as they engender. The greater that any beaſts be, the leſſe fruitfull K L M

A fruitfull they are of their bodie. Elephants, Camels, and Horſes, get but one at once, neither do the females beare any more at a time: whereas the Goldfinch or Linnet, a verie little bird, bringeth forth a dozen commonly at once. Such as bring moſt, are leaſt while in breeding. The greater that any creature is, the longer time it requireth to be formed in the mothers wombe. And ſuch as live long, be longer alſo ere they have their perfection and come abroad into the world. The growing age is not meet for generation. Beaſts that are whole houfed, never bring but one at a time: ſuch as be cloven footed in twaine, may alſo have twins. But as many as have their feet parted and divided into many toes, are fit to beare many at ones. And whereas all the former rehearſed, bring forth perfect creatures with all parts, ſome have their young ones imperfect and but halfe made: in which number Lioneſſes, ſhe Beares, bitch Foxes, are to be reckoned: but ſpecially the ſhee Beares, whoſe whelpes are more unſhapen than the reſt: and a rare thing it is to ſee them a whelping. Howbeit ſuch females when they are delivered of them, with their licking do chafe and heat them, and ſo by little and little bring them to ſome forme and faſhion by this meanes. Such for the moſt part beare foure whelpes. As for Bitches, Wolves, Panthers, and Thoes, kindle their young before they can ſee.

B

Of Dogges and Bitches there be many kinds. They of * Laconia, as well the male as the female, be apt to engender after they be eight moneths old. They be with whelpe threeſcore daies and three, ordinarily. As for other Bitches, they goe proud at ſixe moneths, and may be lined. They be all the ſort of them, ſped at the firſt lining. Bitches that goe aſſaut and take the dog before the full time, namely when they be verie young, ſuch bring a litter that will be longer ere they ſee: neither go they: but all the whelpes will not be blind ſo many daies. Dogs commonly when they be halfe yeere old, are thought to lift up their leg when they piſſe; and that is a ſigne they are come to their full ſtrength and perfection: but bitches all that time piſſe ſitting upon their buttocks. They have twelve whelpes when they bring moſt, but ye ſhall ſee them commonly with a litter of ſixe or five: and ſometime they come with juſt one, but that is thought to be a prodigious ſigne; as alſo if the whelpes be all Dogges, or all Bitches. The firſt uſually that they whelpe, be Dogs; for the reſt, they be one with another, a Dog and a Bitch: namely, if they were lined in the due ſeaſon, and at the juſt moneth. And commonly they go proud ſixe moneths after their former litter. The Bitches of Laconia ordinarily bring eight at a time. The Dogs of this race have a propertie with them, that the more they be travailed, the more luſtie and freſh they are, yea and the hotter after ſalt-bitches. They live ten yeares, and the Bitches twelve. Of other kinds, ye ſhall have them continue fifteen yeares, yea and otherwhiles twentie: but they engender not ſo long, but give over commonly at twelve.

* Reſembling our Engliſh maſtives.

C

D

Cats and Rats of Inde, called Ichneumones, in all other reſpects follow the nature of Dogs, ſave that they live but ſix yeares. Conies kindle everie moneth, and albeit they be bagged, yet will they take the bucke againe, and conceive upon it; like as the Hares alſo will doe the ſame: for as ſoone as ever they have kindled, they go to bucke and are preſently ſped: and ſay that the Leverets or Rabbets lie ſucking at them, yet will they be with yong. When they be new kindled, they cannot ſee.

Elephants (as wee have alreadie ſaid) never bring but one at once, and that commonly is as bigge as a Calfe a quarter old. Camels goe a whole yeare. After they be three yeares old, they are ſufficient for to engender: and commonly they come in the ſpring: and it is a yeare after before they be covered againe. As for Mares, if there be three daies betweene, or but one, after they have foled, it is thought they may verie well be covered againe; yea and they are brought perforce to the ſtallion for this purpoſe. It is ſuppoſed alſo, that the ſhee Aſſe within ſeven daies after, will ſooneſt conceive. It is a rule, to ſhare and clip a Mares maine, before ſhee will abide the covering of an Aſſe, ſo vile and baſe a beaſt: for ſo long as the haire of her maine is well growne, ſhee is ſo proud and glorious, that ſhee will not abide the Aſſe to come neare her. So ſoone as they be covered and ſped, they run full into the South or the North wind, according as they be conceived either with male or female: a thing that no other beaſt beſides, doth. And then, ſuddainly they chaunge their colour; for their haire will be redder, or at leaſtwiſe fuller and deeper, what colour ſoever it be. By which ſigne it is knowne they are with fole, and then they will admit no ſtallions unto them, would they never ſo faine. And ſay, that ſome of them have foles running by their ſides, they will doe their deed at worke nevertheleſſe: nay when they be with fole, they will labour as well as they did before: in ſo much, as many

E

F

times they ſteale a foling, before their maiſter beware that they are with fole. We have read G
in Chronicles, that *Echecratides* the Theſſalian had a Mare, which even then when ſhee was
gone farre with fole, woon the beſt game in the Olympian race. They that have ſought more nar-
rowly into the ſecrets of Nature, ſay, That ſtone-Horſes, Dogs, and Bores, deſire the females in
a morning: but Mares, Bitches, and Sowes make meanes to the male after noone. Mares that
are kept within houſe at racke and manger with hay and provender, deſire to be covered three-
ſcore daies before thoſe that goe abroad in the heard. Swine alone of all creatures when they be
brimming, froth and ſome at the mouth. And as for the Bore, if he heare the grunting of a Sow
that ſeekes to be brimmed, unleſſe he may come to her, will forſake his meat, untill he be leane
and poore: and ſhe againe will be ſo farre enraged, that ſhe will be readie to run upon a man and
all to teare him, eſpecially if his cloths be white. But this rage and woodneſſe of hers is aſſua- H
ged and allaied, onely with bathing her ſhare behind with vineger. Some thinke there be cer-
taine meats will provoke beaſts to fleſhly luſt, namely, Onions given in meat to a beaſt; like as
Rocket to a man or woman. Moreover, it is ſuppoſed, that whatſoever is made tame, which by
kind was wild, the ſame will not breed, as Geeſe and Ganders. In like manner, wild Swine and
red Deere, if they be tamed; or if they doe, it is very long firſt: and ſuch onely as were brought
to hand even from the time that they were very young. Finally, this one thing is ſtraunge and
wonderfull, that all foure-footed beaſts, ſave onely the Mare and the Sow, if they find them-
ſelves to be with yong, drive the male from them. But the Connie and the Hare alone will con-
ceive againe when they be gone with young.

I

Chap. lxiiii.

The varietie in living creatures, as touching their comming into the world.

WHatſoever have quicke creatures within them, bring the ſame forth with the head for-
ward. For when the time is come, the young thing turneth about a little before, which
otherwiſe lay ſtreight out at length in the bellie. Fourefooted beaſts, whiles their dams
goe with them, lie with their legs ſtretched along, cloſe unto their owne bellies. An infant whiles
it is in the mothers wombe, gathereth round into a ball, and hath his noſe lying juſt betweene his
two knees. As for falſe conceptions or Moone-calves (whereof wee ſpake before) ſome thinke
they are engendred of the womans ſeed onely: namely, when ſhee is not conceived by a man, K
but by her ſelfe: and hereupon it is, that the ſaid conception hath no vitall nor animall life, be-
cauſe it proceedeth not of the conjunction of male and female both. True it is, that it is endu-
ed with a certaine vegetative power, to bee nouriſhed and to grow, like as wee ſee in trees and
other plants.

Chap. lxv.

The breed of Mice and Rats.

OF all creatures that bring foorth their young perfect, Swine onely farrow one Pig and two
Pigs at a time, yea, and ſometimes a number of them. Alſo they alone contrarie to the L
nature of all thoſe that either be whole hoofed, or cloven footed in twaine, bring a num-
ber of young ones at one farrow. But above all, Mice and Rats for fruitfulneſſe doe paſſe. And
therefore I cannot put off the diſcourſe of them any longer: and yet therein I muſt follow *Ari-
ſtotle* for mine author, and the report withall of the ſouldiours that ſerved under *Alexander* the
great. It is ſaid that they engender by licking, without any other kind of copulation: and that
one of them hath brought ſixe ſcore at a time: alſo that in Perſia there have been young Mice
found with young, even in the bellie of the old dam. And ſome are of opinion, that they will bee
bagged, if they taſt but of a little ſalt. Why ſhould wee then wonder any more how ſuch multi-
tudes of field-Mice and Rats ſhould come to devour whole fields of corne? Howbeit, the reaſon
is not yet knowne, how ſuch numbers of them ſhould all of a ſuddaine conſume away and come M
to nothing. For neither bee they found lying dead above ground, neither can any man come
forth and ſay, that hee hath turned up any one with his ſpade as hee digged in the Winter. The
countrey of Troas is exceedingly given to breed great ſtore of them, inſomuch, as they have for-
ced alreadie the inhabitants to abandon the place and depart. Men ſay, that the ſeaſon proper

and

A and agreeable for their breeding in ſuch abundance, is a great drought: alſo, that when they are toward their end, there be little wormes breeding in their heads that kill them. The Mice and Rats of Ægypt have hard haire and prickie, like to Hedgehogs. They goe alſo upright on their hinderfeet, and walke like as if they were two-footed: after the manner of thoſe in the Alpes. Moreover, if beaſts of diverſe kinds doe engender together, they may well breed young betweene them, in caſe they doe agree and jumpe in the time, that the females of both ſhould go with young. It is commonly thought and beleeved, that among foure-footed beaſts the Lizard hath egges within her, and delivereth them at her mouth, but *Ariſtotle* denieth it flatly. Howbeit, they ſit not upon them when they have ſo done, as being forgetfull where they laid them, ſo little or no memorie at all have they. And therefore the young Lizards of themſelves breake
B forth out of the ſhell.

Chap. lxvi.

Of a Serpent engendred of the marrow of a mans backe bone.

I Have heard many a man ſay, that the marrow of a mans backe bone will breed to a Snake. And well it may ſo be: for ſurely there be many ſecrets in Nature to us unknowne, and much may come of hidden cauſes, as we may ſee even among foure footed beaſts.

Chap. lxvii.

C

Of the Salamander.

AS for example: the Salamander made in faſhion of a Lizard, marked with ſpots like to ſtarres, never comes abroad and ſheweth it ſelfe but in great ſhowers; for in faire weather he is not ſeene. He is of ſo cold a complexion, that if hee doe but touch the fire, hee will quench it as preſently, as if yce were put into it. The Salamander caſteth up at the mouth a certaine venomous matter like unto milke: let it but once touch any bare part of a man or womans bodie, all the haire will fall off: and the part ſo touched will change the colour of the skin to the white morphew.

D

Chap. lxviii.

Of thoſe that breed of others which never were engendred. Alſo of thoſe that being engendred, yet breed not.

SOme creatures there be that breed of thoſe that never were engendred themſelves; and yet not according to thoſe naturall meanes as others which we have ſhewed before: and ſuch alſo as either the Summer or Spring, or ſome certaine ſeaſon of the yeare doe breed. Among which, ſome engender not at all, as the Salamanders: * for there is no diſtinction of ſex in them no more than in Yeeles, and in all thoſe which neither lay egs, ne yet bring forth any living creature. Oiſters likewiſe and all ſuch creatures as cleave faſt either to rocks or to the ſhelves, are neither male nor female. As for ſuch as come of themſelves, if there be ſeen in them any diſtinction of male and female, ſomething verily they engender betweene them: but an unperfect creature it is, and not reſembling them: neither doth that generation breed ought any more, as wee ſee the flies that doe engender certaine little wormes. The experience hereof is better to bee obſerved in thoſe creatures which bee called Inſects: whoſe nature is hard to bee expreſſed, and yet I have appointed a ſeverall treatiſe for them apart. Wherefore I will go forward in the diſcourſe begun alreadie, and namely, as touching the ſence and underſtanding of the fore-named creatures, and then proceed to the reſt.

* Which is found untrue by experience.

E

Chap. lxix.

F

The outward ſences of living creatures.

MAn excelleth all other creatures, firſt in the ſence of feeling, and then of taſting: In the reſt, many beaſts goe beyond him. For the Ægles have a clearer eieſight; the Geires a finer ſmell; and the Moldwarpes, notwithſtanding they bee covered over with earth (ſo

heavie, ſo thicke, and deafe an element as it is) yet their eare is farre better than ours. Moreover, albeit the voice of all them that ſpeake above ground doe aſcend upward ſtill from them; yet hear they when they talke: yea, and if a man chaunce to ſpeake of them, ſome hold, that they underſtand their ſpeech, and thereupon doe flie from them. A man, who at firſt lacketh his hearing, wanteth alſo the uſe of his tongue: neither are there any deafe borne, but the ſame likewiſe bee dumbe. A man would not thinke, neither is it likely, that the Oiſters in the ſea doe heare: and yet upon any noiſe and ſound, their manner is to ſinke downe to the bottome. And therefore when as men doe fiſh for them in the ſea, they are as ſilent as they may be. G

Chap. lxx.

A diſcourſe, That fiſhes both heare, and alſo ſmell. H

Fiſhes verily have no eares, ne yet any holes to ſerve for hearing: and yet plaine it is, that they doe heare. Which we may daily ſee in certaine fiſh-ponds and ſtewes where fiſhes bee kept: for when thoſe that have the charge of them make a noiſe with clapping of their hands: as wild as they bee otherwiſe, they ſhall have them come by great flockes to take their meat that is throwne into them: and this are they wonted to doe daily. And that which more is, in *Cæſars* fiſh-pooles a man may ſee whole skuls of fiſhes to repaire at their call: yea, and ſome will ſever themſelves from the reſt of their companie, and come alone to hand, when they be named. Hereupon it is, that the Mullet, ſea-Pike, Stockfiſh, and Chronius, are thought to heare beſt of all others, and therefore live very ebbe among the ſhelves and ſhallowes. That fiſhes have the ſence of ſmelling, it is manifeſt. For they are not all taken, nor yet delighted with one kind of bait: and this is obſerved, that before they bite they will ſmell to it. Some alſo there bee that lie in holes under rockes: and no ſooner hath the fiſher beſmeared and annointed the mouth and ſides of the ſaid rockes in the very entrance to their holes, but he ſhall ſee them come foorth (as it were) to avoid the ſent of their owne carion. Let them lie in the very deepe, yet will they reſort to certaine odors and ſmels, namely, to the Cuttill burnt and the Polype, which for that purpoſe they uſe to put into their neſts. And verily they cannot abide the ſmell of the ſinke and pumpe of a ſhip; neither will they come neere unto it: but above all things, they may not away with the bloud of fiſh. The Pourcuttell hardly or not at all can be pulled from the rockes, ſo faſt cleaveth he: howbeit, come neere unto him with the hearbe Marjarum or Saverie, he will preſently leape from the rock and away, for to avoid the ſent thereof. Purples alſo bee caught by the meanes of ſome ſtinking bait. And for other creatures, who doubteth but they have a perfect ſmelling? Serpents are chaſed away with the ſmell and perfume of the Harts horne; but above all, with the odour of Styrax. And Piſmires are killed with the very fume of Origan, Quicke lime or Brimſtone. Gnats love all foure things, and willingly will thither: but to any ſweet meats they come not neare. I K

Chap. lxxi.

That the ſence of feeling is common to all living creatures. L

There is not a living creature throughout the world, but hath the ſence of feeling, although it have none els. For even oiſters and the earth-wormes, if a man touch them, doe evidently feele. I would thinke alſo that there is none but taſteth as well as feeleth. For what ſhould the reaſon els be, that ſome deſire to taſt this, and others that? And verily herein is ſeene above all, the ſingular workmanſhip of Nature, in the frame of their bodies, and the members thereof. Some yee ſhall have to ſeize upon their prey with their teeth; others ſnatch it with their tallons and clawes. Some pecke and pluck it with their hooked bils; others pudder into their food with their broad nebs. Some with the ſharpe point of their beakes worke holes into their meat; others lie ſucking at it: ſome licke; others ſup in: to conclude, ſome chew; others ſwallow and devour whole as it is. And as touching their feet, there is no leſſe varietie in the uſe thereof: in ſnatching and carrying away; in tearing and plucking a peeces; in holding faſt, and in cruſhing their prey. Some yee ſhall have to hang by their feet, and others never lin ſcraping and ſcratching the earth. M

Chap.

A

Chap. lxxii.

What creatures live of poyſon, and what of earth.

Roe Buckes and Does, yea, and Quailes (as wee have ſaid before) will feed fat with poyſons, and yet they are the moſt meeke and gentle creatures living. Serpents have a great deſire and love to egges: wherein the ſubtiltie of Dragons, is worthie to bee conſidered. For either they ſwallow them downe whole (if their throat will receive them) and after they bee within their bodie, breake and ſquize them in peeces with rolling and winding themſelves round together, and then caſt up the ſhels againe: or if they bee but young ones yet, and not ſo ſtrong as to
B gobble up whole egges, then they will wind about an egge with their taile by little and little, and bind it ſo hard, that they will cut off the crowne of it, as it were with a knife, and then ſup of the reſt which they claſpe and hold faſt betweene. In like manner deale they with birds. For ſwallow they will them whole down the gullet; and afterwards ſtraine and ſtruggle ſo with themſelves, untill they diſgorge againe the feathers and bones that were in their bellies.

Scorpions feed upon earth. And Serpents againe, if they may come handſomely to wine, will make meanes to drinke their fill of it, howſoever otherwiſe they have but little need of anie drinke. They eat no meat at all, or very little, when they be kept cloſe within any thing: like as the Spiders alſo, which otherwiſe naturally live by ſucking. And therefore you ſhall not lightly ſee anie venomous creature to die either of hunger or thirſt. For neither have they ſtore of heat, nor
C plentie of bloud, ne yet of ſweat: all which naturally provoke a ſtomacke, and give an edge to appetite. And among theſe venomous creatures, thoſe be evermore daungerous which have eaten ſome of their owne kind, before they bite or ſting. Apes, Monkies, and Marmoſets beſtow and treaſure up the meat that is given them, or that they can come by, within their cheekes, as in a ſtore houſe. And when they bee hungrie, they get the ſame forth by little and little with their hands, and ſo fall to chew it. Thus practiſe they in making their proviſion, for to ſerve them from day to day, and from one houre to another: which Piſmires uſually doe from yeare to yeare.

Chap. lxxiii.

D

The meat and drinke of ſome creatures.

Of all living creatures that have many toes in their feet, the Hare alone feedeth upon graſſe and greene corne in the blade. As for thoſe that bee whole hoofed, they live both of the blade, and alſo of the fruit thereof. Alſo of ſuch as bee cloven footed, Swine will eat all kind of food, yea, and live of verie roots. It is the propertie of whole hoofed beaſts alone, to wallow and turne over and over. All that have teeth endented in like ſawes, be naturally devourers of fleſh. Beares will feed of corne, bruſe trees, eat grapes, live of apples and other fruits, feed upon bees, creifiſhes, and piſmires. Wolves (as we ſaid before) if they be verie hungrie, eat earth. Sheep feed the better and grow fat, if they may drinke: and therfore ſalt is verie good for them, becauſe it maketh them thirſtie. Draught beaſts, and ſuch as are uſed to carriage, albeit they live of corne
E and graſſe, yet according to their drinking they doe feed. Beſides thoſe mentioned heretofore, of wild beaſts the red and fallow Deere both, doe chew cud when they be made tame and fed by hand: but all chuſe rather in ſo doing, to lie than to ſtand, and in winter more than ſummer, for ſeven months ordinarily. The Rats and Mice in the countrie of Pontus, namely, Hermins, & ſuch like after the ſame manner doe chew cud and goe over their meat againe. What beaſts ſoever are toothed like ſaw teeth, lap as they drinke. So do alſo our common Mice and Rats, although they be of another kind, and are not ſo toothed. They that have broad teeth, plaine, and uniforme, as horſes and kine, drinke ſupping and taking their full draught. Beares in their drinking do neither the one nor the other, but bite at the water and ſo let it downe. In Affricke the more part of wild beaſts drinke not all Summer long, for want of raine water: which is the cauſe that the Rats and
F Mice of Ginnie which be taken, if they drinke afterwards upon ſo long diſuſe, die therewith. In the deſerts of Affricke, where there is no water ever to bee had, there is engendred a certaine wild goat named Oryx, which as by the nature of the place it wanteth drinke, ſo it hath in her bodie a ſoveraine and ſingular remedie againſt drought and thirſt. Which the common theeves & robbers by the high way ſide in Getulia, knowing well ynough, endure a long time with the helpe thereof

thereof without drinke: for they uſe to ſtanch and quench their owne thirſt, with a certain moiſt holeſome liquor found in the bladders of the ſaid beaſt. In the ſame Affricke the Leopards lie in await among the thickets of trees, hidden within the braunches; and ſo ſeize upon them that paſſe by, and make ſpoile even from the place where foules uſe to perch. As for Cats, marke I pray you how ſilent they be, how ſoft they tread when they ſteale upon the ſilie birds: how ſecret lie they in eſpiall for the poore little Mice to leape upon them. Their owne doung and excrements they will rake up and hide in the earth, knowing full well, that the ſmell thereof will bewray where they are. G

Chap. lxxiiii.

What beaſts accord together, and which they bee that diſagree one from another. H

BEſides theſe outward ſences abovenamed, evident it is alſo, that brute beaſts have other inſtincts of Nature. For they entertaine friendſhip and enmitie one with another (which cannot poſſibly be without affection and paſſion) over and beſides thoſe other warres and amities which wee have obſerved in their ſeverall places. Swans and Ægles jarre and warre one with another: ſo doth the Raven and the Witwall or Loriot, which ſeeke after one anothers egges in the night. Likewiſe the Raven and Kite: for the Raven evermore is readie to catch the Kites meat from him. Crowes and Owles are at mortall feaud one with another. The roiall Ægle hateth the Wren, and why? becauſe (if we may beleeve it) he is named Regulus, [i. the petie-king.] Howlets alſo cannot agree with other little birds. Againe, foules make warre with four-footed beaſts. The Weaſell and the Crow be at deadly debate. The Turtle with the Creckit (Pyralis) that liveth about the fire. The Ichneumons with Waſpes: the Phalangia with other Spiders. And among water-foules, Duckes and Drakes with the ſea-Guls. The Seamewes with the Buzzard Triorchis. As for the field Rats or Mice, and the dwarfe-Herons, they ſeeke to prey one upon the others little ones. The bird Ægithus, (the leaſt in manner of all others) waiteth the Aſſe a ſhrewd turne; for when he rubbeth himſelfe againſt the buſhes to ſcratch where it itcheth, hee therewith breaketh and overthroweth her neaſt: and therefore this ſilie bird is ſo much afraid of the Aſſe, that if ſhe heare him but bray, ſhe is readie to throw the egges out of the neaſt, and thoſe that bee alreadie hatched, will for verie feare fall downe: Then in revenge of this wrong, ſhe will flie upon him, and with her bill pecke where the skin is off and raw with rubbing, yea, and make holes even to the verie bone. Moreover, Foxes and the Yeeles of Nilus cannot abide one another, but are in continuall warre. So be Wezils and Swine. There is an unhappie bird called Æſalon, and but little withall: yet will ſhe ſquaſh and breake the Ravens egges. And when ſhee hath young ones, they be much troubled and annoied with the Foxes: ſhe againe to be quit with them, will all to pinch & nip both the Fox and her cubs. The Ravens ſeeing that, come to aid (as it were) againſt a common enemie. The Goldfinch liveth among buſhes and thornes, and therefore ſhe alſo hateth the Aſſe, becauſe he eateth up the floures that grow thereupon. The bird Ægithus, ſo farre hateth another called Anthus, that men are verily perſuaded the bloud of them both will not mingle together: and hereupon it is, that the ſorcerers and witches have brought it into an ill name. The Thoes and the Lions doe foulely jarre and diſagree. In ſumme, the leaſt creatures as well as the biggeſt, quarell and fight one with another. Rats and field Mice cannot abide to come neare a tree that is full of Ant-neſts. The Spider eſpying a Serpent lying along under the ſhade of a tree where ſhee ſpinneth, ſlideth downe upon a fine thred to the head of the Serpent, and ſtingeth him ſo deepe into the brain, that he falleth a hiſſing and grinding his teeth: he keepeth a winding and turning about, but hath not the power to breake the thred that hangeth above, ne yet to flie from the Spider: inſomuch, as the Serpent lieth there dead in the place. Contrariwiſe, Peacocks and Houſe-doves be as friendly one to another: ſo be the Turtles and Popinjaies, the Merles and Turtles likewiſe. The Crow and the leſſe Bittours alſo: for they joine and band together againſt the common enemie the Foxe. Likewiſe, the bird-Harpe and the Kite againſt the Buzzard. What will yee ſay? be there not tokens of affection even in Serpents, the cruelleſt and felleſt creatures of all others in the world? I have written alreadie of the report or tale that goeth in Arcadia of a man, whoſe life was ſaved by a Dragon (that was brought up by him) ſo ſoone as ever he knew him by his voice. As for the Aſpis, *Philarchus* telleth a ſtrange hiſtorie of I K L M

it.

A it. For hee writeth, that in Ægypt there was an Aſpis uſed ordinarily to come to the table of a certaine Ægyptian, and there took meat at his hand: which Serpent afterwards had yong ones, whereof one chaunced to ſting a ſonne of the maiſter of the houſe, that he died of it. Now when the dam (the old Aſpis) came accordingly at the accuſtomed houre of repaſt for victuals, and perceived the deed committed by her little one; not only killed it in ſatisfaction of the former fact, but alſo forbare the houſe, and was never knowne to repaire thither againe.

Chap. lxxv.

The ſleepe of living creatures.

B THe queſtion, Whither living creatures ſleepe or no? is not very difficult, but ſoone decided. For plaine it is, that of land creatures, all that winke and cloſe their eies doe ſleep. As for thoſe in the water, that they alſo ſleepe (though but a little) even they are of opinion who otherwiſe make doubt of the reſt. And this they doe not collect and gather by their eies (for lids they have none to ſhut) but becauſe they are ſeene to lie ſo ſtill and quiet, as faſt and ſound aſleepe, ſtirring no part, but a little wagging their tailes, and ſeeming to ſtart and bee affright at any ſuddaine noiſe made in the water. As for the Tunnies, wee may avouch more confidently of their repoſe: for they come of purpoſe to ſleepe under the bankes or rockes. And flat broad fiſhes lie ſo ſtill ſleeping among the ſhelves, that oftentimes a man may take them up with his hand. The Dolphins and Whales be heard to rout and ſnort again, they ſleepe ſo ſoundly. More-
C over, as touching Inſects, no man need to doubt that they ſleepe, ſo quietly doe they lie & make no noiſe: nay, if you bring a candle or other light, and ſet it even before their eies, you ſhall not have them to awake nor move. An infant after it is borne, ſleepeth for certaine moneths at the firſt, and in manner doth nothing els. But the elder he waxeth, wakefull he is every day more than other. Babes at the very beginning doe dreame. For they will waken and ſtart ſuddainely in a fright: and as they lie aſleepe, keepe a ſucking of their lips, as if they were at the breaſt heads. Some never dreame at all. And if ſuch chaunce contrarie to this cuſtome, for to dreame ones, it hath been counted for a ſigne of death, as we have ſeene and proved by many examples and experiments. And here in this place there offereth it ſelfe a great queſtion, and very diſputable *pro & contra*, grounded upon many experiments of both ſides: namely, Whether the ſoule of man
D while the bodie is at reſt, foreſeeth things to come? and how it ſhould ſo doe? or whether this be a thing of meere chaunce and altogither conjecturall, as many others be? And ſurely if we goe by hiſtories, we may find as many of the one ſide as the other. Howbeit all men in manner agree in this, That dreames either immediatly upon drinking wine and full ſtomacke, or els after the firſt ſleepe, are vaine and of no effect. As for ſleepe, it is nothing elſe but a retreat and withdrawing of the ſoule into the mids of it ſelfe. Evident it is, that Horſes, Dogs, Kine, Oxen, Sheepe, and Goats doe dreame. Whereupon it is credibly alſo thought, that all creatures which bring forth their young quicke and living, doe the ſame. As for thoſe that lay egges, it is not ſo certein that they dreame: but reſolved it is, that they all doe ſleepe. Now let us paſſe and proceed to the treatiſe of Inſects.

E

F

THE

THE ELEVENTH BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

The Preface.

IT remaineth now to write of those living creatures, which are the most subtill of all others that Nature hath brought forth: forasmuch as some are of opinion, That they breath not, ne yet have any blood at all.

Chap. I.

Of Insects in generall.

MAny and sundrie sorts there be of Insects, as well among land creatures as those that flie in the aire. Some are winged, as Bees: some have partly wings and partly feet, as Pismiers: others want both, and neither flie nor goe on their feet. And well may they all be called *Insecta*: by reason of those cuts and divisions, which some have about the necke, others in the breast and belly; the which doe goe round and part the members of the bodie, hanging togither only by a little pipe and fistulous conveiance. There be of them, that have not the bodie divided entire, one part from the other by these incisures, cuts, and wrinkles; but they appeare onely either under the bellie, or upon the backe above, and go no deeper, neither yet round the whole compasse of the bodie. But a man shall perceive in them certaine rings or circles, apt to bend and wind to and fro, & those so plated and plaited one over another, that in no thing elsewhere, is more seen the workmanship of Nature, than in the artificiall composition of these little bodies.

Chap. II.

The industrie and subtiltie of Nature in framing these Insects.

IN bodies of any bignesse, or at leastwise in those of the greater sort, Nature had no hard peece of worke to procreat, forme, and bring all parts to perfection; by reason that the matter wherof they be wrought, is pliable and will follow as she would have it. But in these so little bodies, (nay prickes and specks rather than bodies indeed) how can one comprehend the reason, the power, and the inexplicable perfection that Nature hath therein shewed? How hath she bestowed all the five senses in a Gnat? and yet some there be, lesse creatures than they. But (I say) where hath she made the seat of the eies to see before it? where hath she set and disposed the taste? where hath shee placed and inserted the instrument and organ of smelling? and above all, where hath she disposed that dreadfull and terrible noise that it maketh, that wonderfull great sound (I say) in proportion of so little a body? Can there be devised a thing more finely & cunningly wrought than the wings set to her bodie? Marke what long-shanked legs above ordinarie shee hath given unto them. See how shee hath set that hungrie hollow concavitie in stead of a belly: and hath made the same so thirstie and greedie after blood, and mans especially. Come to the weapon that it hath to pricke, pierce, and enter through the skin; how artificially hath shee pointed and sharpened it? And being so little as it is, (as hardly the fineneſſe thereof cannot be seen) yet as if it were of bignes and capacitie answerable, framed it she hath most cunningly for a twofold use: to wit, most sharpe pointed, to pricke and enter; and withall, hollow like a pipe for to sucke in

A and conveigh the bloud through it. Come to the Wood-worme, what manner of teeth hath Nature given it, to bore holes and eat into the verie heart of hard oke? who heareth any sound that she maketh whiles she is at her worke? and yet in wood and timber is in manner all her feeding. We make a wonder at the monstrous and mightie shoulders of Elephants, able to carrie turrets upon them. Wee marveile at the strong and stiffe necks of Bulls, and to see how terribly they will take up things and tosse them aloft into the aire with their hornes. We keepe a woondring at the ravening of Tygres, and the shag manes of Lions: and yet in comparison of these Insects, there is nothing wherein Nature and her whole power is more seene, neither sheweth she her might more than in the least creatures of all. I would request therefore the readers, that in perusing this treatise, they will not come with a prejudicate opinion, nor (because many of these
B sillie flies and wormes be contemptible in their eies) disdaine, loath, and contemne the reports that I shall make thereof; seeing there is nothing either in Natures workes that may seeme superfluous, or in her order unworthie our speculation.

Chap. iii.

Whether Insects doe breath, and whether they have bloud or no?

DIvers have denied that they breath at all; and upon this reason they ground their position, Because they have no arterie or windpipe annexed or reaching to any instrument within, of respiration. And they be of opinion, that they live indeed as plants, hearbs, and trees:
C howbeit (say they) there is a great difference betweene having life, and drawing wind or vitall breath. And by the same rule they affirme, that they have no bloud, which is in none that be without heart and liver. Neither doe any things breath which want lungs. And from hence ariseth a world of other questions thereupon depending. For the same men denie flatly, that these creatures have any voice: notwithstanding so great humming of Bees, & singing sound of Grashoppers, and such other, whereof wee will consider in due time and place, accordingly. Verily for mine owne part, the more I looke into Natures workes, the sooner am I induced to beleeve of her even those things that seeme incredible. Neither doe I see any inconvenience to beleeve, that these Insects may as well draw wind and breath without lungs, as live without such noble and principall parts as are requisite for life in other creatures: according as wee have alreadie
D shewed in the discourse of fishes and such like, that live in the sea; howsoever the quantitie, depth, and heights of the water, may seeme to impeach and stop their breath. For who would easily beleeve, that some creatures should flie at libertie, and living as they doe in the mids of wind and aire, yet want wind and breath themselves? that they should have a sense and care to seeke their living, to engender, to worke, and to forecast for the time to come: and albeit they have no distinct members, to carrie (as it were in a ship) their severall senses, yet that they should heare, smell, and tast; yea and be endued with other singular gifts besides of Nature, to wit, wisdome, courage, skill, and industrie. Indeed, confesse I must, that bloud they have none: no more have all creatures that live upon the land: howbeit a moist humor they have, somewhat like unto bloud, which serveth them in stead thereof. Like as in Cuttles of the sea, there is found a certaine
E blacke liquor in stead of bloud: and in all the sort of Purples and such shell fishes, that excellent juice which staineth and dieth so as it doth. Semblably in these Insects, whatsoever humour it is whereby they live, the same may well enough goe for bloud and so be called: all the while that every man hath libertie to give it what name he thinketh fittest. As for me, my purpose is not to judge and determine of these doubtfull quillets, and their causes: but to set downe and shew the nature of such things as be cleare and apparent.

Chap. iiii.

The substance of the bodie in these Insects.

F THese Insects, so farre as a man may perceive, seeme not to have either sinewes or bones, no chine nor gristle, no fat, no flesh, ne yet so much as a tender and brittle shell, as some sea-fishes have, nor that which may be truly called a skin; but a certaine corporall substance of a middle nature between all these: for their bodie without, is like a drie thing, and yet more tender and soft than a sinew: whereas in all other parts the matter is to be accounted rather drie than

than hard. This is the very ſubſtance whereof they conſiſt, and nothing have they beſides. For G
within there is nought, unleſſe it be in ſome very few, who have a certain pipe or conduit in ſtead of a gut, and the ſame wrapped and enfolded together. Which is the cauſe, that if they be cut in twaine and pulled in peeces, yet they have a ſpeciall propertie to live long, and each part aſunder will pant and ſtirre by it ſelfe. The reaſon is, becauſe the vitall vertue in them (whatſoever it is) is not ſeated in any one member, this or that, but ſpread and defuſed throughout the whole bodie; and leaſt apparent in the head, of all other parts: for, that alone, unleſſe it be plucked away together with the breaſt, mooveth not one jot. No kind of creatures have more feet than theſe: and the more they have, the longer live they when they be divided aſunder; as we ſee by experience in the Scolopendres. Eies they have, that is certaine; and beſides ſight, they are not without the ſences of feeling and taſting: ſome there be which ſmell, and a few that have their hearing alſo. H

Chap. v.

Of Bees.

BVt among them all, Bees are principall, and by good right deſerve eſpeciall admiration, as being the onely Inſects ordained by Nature for mans uſe. They gather honie, a moſt ſweet, pleaſant, fine, and wholeſome liquor. They frame the honie combes, and worke the waxe, which ſerve for a thouſand turnes in this life. They endure paines continually, and diſpatch their worke and buſineſſe. They have a policie and Commonwealth among themſelves. They hold their ſeverall counſels: and there is not a ſwarme or caſt that they have, without a king and cap- I
taine of their own: and that which is moſt admirable of all, there be civile faſhions and cuſtomes among them. Moreover, being as they are, neither tame and gentle, nor yet to be counted wild and ſavage, yet (ſee the wonderous worke of Nature!) by the means of ſo little a creature, nay, a ſhaddow rather (to ſay a truth) of the leaſt creature, ſhee hath effected a thing incomparable. What ſtrength of ſinewes, what force and puiſſance is able to countervaile this ſo great induſtrie and effectuall power of theirs? What wit and policie of man is anſwerable to their diſcreet and orderly courſe? Beleeve me, they paſſe them all, & in this one point ſurpaſſe, That all things are common among them, and nothing know they private and ſeverall. What ſhould we debate and make queſtion any more as touching their breath? Why ſhould we diſpute of their bloud, which cannot chuſe but bee very little in ſuch ſmall bodies? Let us rather conſider hence-forth K
their wit, and the gifts of their mind.

Chap. vi.

The naturall order and regiment that is in Bees.

BEes all winter time keep cloſe within their hives. And good reaſon: for how poſſibly ſhould they endure hard froſt and chilling ſnow? how ſhould they abide the peircing blaſts of the North winds? And verily it is the manner of all theſe Inſects ſo to doe, but yet they keepe not in ſo long. For why? being nettled warme as they are within our houſes, they ſooner doe re- L
cover their vigor, and come abroad betimes. But as concerning Bees, either the times have changed, and places altered their courſe, or els the writers beforetime of this argument have greatly erred. They begin to retire themſelves and take up their wintering harbor, preſently upon the ſetting and occultation of the ſtarre Vergiliæ; and come not forth into the field againe, untill after the riſing and apparition thereof. So that Bees goe not abroad at the very beginning of the Spring, as writers have ſet downe, (for who ſeeth not the contrarie throughout all Italie) but remaine ſtill cloſe and ſecret, untill that Beanes begin to bloume; before which time they ſettle not themſelves to any worke or labour. But from thence forward, they looſe not a day, they ſlacke not their painefull travell, neither play they one jot, if the weather be faire and will permit. The firſt thing they doe, is to make their combes and waxe, that is to ſay, their own habitations and ſtore-houſes. When they are provided of lodging, they thinke upon the multiplying of their owne M
kind: and finally, they gather and make both honie and waxe: the ſubſtance whereof they ſucke from the flowers of trees and hearbes, from the gums alſo of trees which breed ſuch gluey matter; and beſides, out of the juice, gum, and roſin of the willow, elme, and cane. With theſe and ſuch like, they plaiſter all the hive within throughout, as it were with a coat or parget, enterming-

gling

A gling withall other juices that are more unſavorie, gathered from the bitteреſt hearbes they can get: to the end that they might keepe out other little vermines that are greedie of their honnie: as knowing full well, that they are about a peece of worke which is worthie to be deſired and ſought after. Of this gummie and glutinous ſubſtance they frame alſo their dores and entries which are wide and large.

Chap. vii.

The proper tearmes belonging to their worke.

B THe firſt foundation of their worke, skilfull honie-maiſters doe call Commoſis: the ſecond Piſſoceros: the third Propolis, which lieth betweene thoſe former coats and the waxe of the honie-combe, whereof there is ſo great uſe in Phyſicke. Commoſis is that firſt coat or cruſt of a bitter taſt. Piſſoceros commeth next after it, as it were a thinner courſe of pitch or varniſh, and a weaker kind of waxe, made of the more liquid and mild gum of vines and Poplars. But Propolis conſiſteth of a more ſolide matter, as having the ſtrength of ſome floures withall: howbeit, as yet it is no full and perfect waxe, but the foundation and ſtrengthening of the combes: and ſerveth as a good defence againſt cold, and to ſtop the paſſage of waſpes and ſuch hurtfull creatures as would doe injurie to the Bees, for ſtill a ſtrong ſent it carrieth, as which, many men doe uſe in ſtead of Galbanum. After this munition done, then followeth the proviſion of that which is called Erithace, ſome tearme it Sandaracha, and others, Cerinthus. This muſt ſerve for C the Bees meat, whereof they are to live whiles they worke: and found it is oftentimes, laid apart within the concavities of their combs, it being alſo of a bitter taſt. Now this Erithace commeth of the *Spring-dew, and the moiſture iſſuing out of trees in manner of gumme: in leſſe abundance ever, when the Southweſt wind bloweth: but when it is full South, more blacke: and in the Northerly conſtitution, farre better and more red withall. Great ſtore hereof, Bees meet with upon Almond trees. *Menecrates* ſaith, That it is a flower foreſhewing what harveſt ſhall enſue: * but no man ſaith ſo beſides him.

Rore verno, or Sea-dew, *Rore marino.*

*Being deceived with the Homonymie of the word *Cerinthus*, which hath a double ſignification.

Chap. viii.

D ### *What flowers they be which Bees ſerve themſelves moſt withall for their worke.*

AS for waxe, Bees gather and make it of the flowers of all trees, hearbes, and plants, ſaving the docke and *gooſe-foot, which are two kinds of hearbes. Some except alſo a kind of Broome called Spart: but untruly: for in Spaine (where there be many places full of that ſhrub) the honie carrieth the ſtrength thereof in the taſt. I am beſides of opinion, that they be deceived, who thinke that Bees gather not of Olive trees. For we ſee it ordinarie, that there be more caſts and ſwarmes of Bees where Olives grow in greater abundance. Theſe pretie creatures hurt no fruit whatſoever. They will not ſettle upon a flower that is faded, and much leſſe of any dead carkaſſe. They uſe not to goe from their hive about their buſineſſe above threeſcore paces. E And if it chaunce, that within the precinct of theſe limits they find not flowers ſufficient: out goe their ſpies, whom they ſend forth to diſcover forage farther off. If in this expedition, before they come home againe, they bee overtaken by the night, they couch upon their backes for feare leaſt their wings ſhould bee overcharged with the evening dew, and ſo they watch all night untill the morning.

* Chenopode.

Chap. ix.

Thoſe that have taken a ſpeciall pleaſure in Bees.

F SVch is the induſtrie of this creature, that no man need to wonder at thoſe two perſons who delighted ſo much in them, that the one (namely *Ariſtomachus* of Soli) for threeſcore yeares lacking but twaine, did nothing els but keepe Bees: and *Philiſcus* the Thaſian employed the whole time of his life in forreſts and deſarts, to follow theſe little animals: whereupon hee was ſurnamed *Agrius*. And both theſe upon their knowledge and experience, wrate of Bees.

G

Chap. x.

The order that they keepe in their worke.

THe manner of their busineſſe is this. All the day time they have a ſtanding watch and ward at their gates, much like to the *corps de guard* in a campe. In the night they reſt untill the morning: by which time, one of them awaketh and raiſeth all the reſt with two or three bigge hums or buzzes that it giveth, to warne them as it were with ſound of trumpet. At which ſignall given, the whole troupe prepareth to flie forth, if it be a faire and calme day toward: for they doe both foreſee and alſo foreſhew when it will be either windie or rainie, and then will they keepe within their ſtrength and fort. Now when the weather is temperate (which they fore- H
know well enough) and that the whole armie is on foot and marched abroad, ſome gather togither the vertue of the flowers within their feet and legs: others fill their gorge with water, and charge the downe of their whole bodie with drops of ſuch liquor. The younger ſort of them go forth to worke, and carrie ſuch ſtuffe as is before-named, whiles the elder labour and build within the hive. Such as carrie the flowres aboveſaid, ſtuffe the inner parts of their legs behind (and thoſe Nature for that purpoſe hath made rough) with the helpe of their forefeet; and thoſe again are charged full by the meanes of their muſſle. Thus being full laden with their proviſion, they returne home to the hive, drawne even togither round as it were in a heape, with their burden: by which time, there be three or foure readie to receive them, and thoſe eaſe and diſcharge them of their lode. For this you muſt thinke, that they have their ſeverall offices within. Some are buſie in building, others in plaiſtering and overcaſting, to make all ſmooth and fine: ſome be at I
hand to ſerve the workemen with ſtuffe that they need; others are occupied in getting readie meat and victuals out of that proviſion which is brought in: for they feed not by themſelves, but take their repaſt togither, becauſe they ſhould both labour and eat alike, and at the ſame houre. As touching the manner of their building, they begin firſt above to make arch-worke embowed, in their combs, and draw the frame of their worke downward; where they make two little allies for every arch or vault, the one to enter in by, the other to go forth at. The combs that are faſtened togither in the upper part, yea and on the ſides, are united a little, and hang all together. They touch not the hive at all, nor joine to it. Sometime they are built round, otherwhiles winding bias, according to the proportion of the hive. A man ſhall find in one hive honycombs
ſomtime of two ſorts: namely, when two ſwarmes of Bees accord togither: and yet ech one have K
their rites and fathions by themſelves. For feare leaſt their combs of waxe ſhould be readie to fall, they uphold them with partition-wals, arched hollow from the bottome upward, to the end that they might have paſſage every way to repaire them. The formoſt rankes of their combs in the forefront, commonly are built void and with nothing in them, becauſe they ſhould give no occaſion for a theefe to enter upon their labours. Thoſe in the backe part of the hive, are ever fulleſt of honie: and therefore when men would take out any combes, they turne up the hives behind. Bees that are emploied in carrying of honie, chuſe alwaies to have the wind with them, if they can. If haply there doe ariſe a tempeſt or a ſtorme whiles they bee abroad, they catch up
ſome little ſtonie greet to ballaiſe and poiſe themſelves againſt the wind. Some ſay, that they L
take it and lay it upon their ſhoulders. And withall, they flie low by the ground under the wind when it is againſt them, and keepe along the buſhes, to breake the force thereof. A wonder it is to ſee and obſerve the manner of their worke. They marke and note the ſlow-backs, they chaſtice them anone, yea, and afterwards puniſh them with death. No leſſe wonderfull alſo it is to conſider how neat and cleane they bee. All filth and trumperie they remove out of the way: no foule thing, no ordure lieth in the hive to hinder their buſineſſe. As for the doung and excrements of ſuch as are working within, they be laid all on a heape in ſome by corner, becauſe they ſhould not goe farre from their worke: and in foule weather (when otherwiſe they have nought to doe) they turne it forth. Toward evening, their noiſe beginneth to ſlacke and grow leſſe and
leſſe: untill ſuch time as one of them flieth about with the ſame lowd humming, wherewith M
ſhee waked them in the morning, and thereby giveth a ſignall (as it were) and commaundement for to goe to reſt: much after the order in a campe. And then of a ſuddaine they are all huſht and ſilent.

Chap.

A

Chap. xi.

Of the Drone-bees.

THe houses and habitations that Bees build first, are for the Commons: which being finished, they set in hand with a pallace for their king. If they foresee that it will be a good season, and that they are like to gather store of provision, they make pavilions also for the Drones. And albeit they be of themselves bigger than the very Bees, yet take they up the least lodgings. Now these Drones be without any sting at all, as one would say unperfect Bees, and the last fruit of such old ones as are wearie and able to doe no more good; the very latter brood and encrease, and to say a truth, no better than slaves to the right Bees indeed. And therefore the others as maister Bees over them, have them at their commandement: if any drudgerie or such like businesse is to be done, out are they sent first: make they but slow hast in that they are set about, sure they are to pay for it, and to be punished without mercie. And not only in their ordinarie worke they serve them in good stead, but also they helpe them to multiplie: for the hotter that the place is, the more hope there is of a greater increase. Certes, this is found by experience, That the better the hive is peopled with a number of Bees, the Cast when time comes will be the greater, and the oftener will they swarme. But after the honie is growing once to maturitie and perfection, then begin they to drive these Drones out of dores: nay, ye shall have many Bees set upon one poore Drone, and kill him outright. So that a man shall not lightly see any of that kind but in the Spring time.

B

C

If one plucke off the wings from a Drone, and put him againe within the hive, he will never lin untill he have done the like by all the rest of the same kind. As touching the roiall pallaces for the kings and captaines that shall bee, built they are all most stately, great of receit, in shew magnificent, seated by themselves apart, and like citadels raised upon some high knap or tuft of a mountaine. If one of these castles chance to be pressed or crushed, there will no more come of that princely race. All the lodgings and roumes where the Bees abode is, are six cornered, according to the number of feet employed in that worke. None of all this is done at any set time or day appointed: but they take the opportunitie when they can espie faire weather to fit their businesse, and so doe these things by snatches. And surely within a day or two at the most, they fill their store-houses with honie.

D

Chap. xii.

The nature of Honie.

THis pleasant and sweet liquor which we call honie, is engendred naturally in the aire, and especially by the influence and rising of some starres: but principally during the fervent heat of the canicular daies, even when the Dog starre is in his full power and force: never before the appearing of the starre Vergiliæ, but alwaies before day. For so about the day breake betimes in the morning, the leaves of trees are found bedewed with honnie: and looke whosoever they are, that have occasion to be abroad in the aire about the dawning of the morrow, they may evidently perceive their clothes wet with a clammie humour of honie, yea, and their haires glewed therewith together, if they goe bare headed. Bee it what it will, either a certaine sweat of the skie, or some unctuous gellie proceeding from the starres, or rather a liquor purged from the aire when it purifieth it selfe; would God wee had it so pure, so cleare, and so naturall, and in the owne kind refined, as when it descendeth first, whether it be from skie, from starre, or from the aire. For even now such as it is, passing (as it were) through so many hands: namely, falling from a region so high and remote from us, and in the way as it commeth catching much filth; and namely, infected with the grosse vapour of the earth which it meeteth in the fall: moreover, sucked and drunke (as it is) by the Bees from the leaves of trees and grasse, and so gathered and laid up in their little bellies or bladders, (for at their mouth they spread and cast it up againe;) corrupted also and sophisticated with other humors drawne out of flowers; finally, so long soking within the hives, and suffering so many alterations: yet for all the sorrow, a great resemblance it carrieth still with it of a most pleasant, sweet, and cœlestiall liquor.

E

F

Chap. xiii.

The best kind of Honie.

THe best honie is ever there, where the best flowers are; within the receptacles whereof, it lieth. As we may see in the countrey about Athens, which carrieth the name for honie: also in Sicilie within those territories about Hymettus and Hybla: and lastly, in the Island Calydna. Now this honie, whereof we treat, is at the first cleare and thin as water: and for certaine daies in the beginning, it workes and boiles like to new wine, and so purgeth it selfe. By the twentieth day it getteth a certaine consistence and thicke substance, and soone after gathereth a thin creame or skin over it: which in the very heat of working, is raised of a scum, and so thickeneth. The best simply that Bees can sucke, and least infected with the corruption of tree braunches, is that which they get out of the leaves of Oke, Tilia [*i.* Linden tree,] and Canes.

Chap. xiiii.

The sundrie sorts of Honie, according to diverse regions.

HOnie (as wee said before) is better or worse, according to the region where it is gathered; and that in many respects. For in some place ye shall have goodly combs: howbeit, more commendable for waxe than the honie in them: as in the Pelignians countrey, and Sicilie. In others, and namely in Candie, Cypres, and Affricke, the combes yeeld more honie than waxe. Some countries there be, especially in the North parts, where the combes passe for bigneſſe; insomuch, as in Germanie there hath been a hony-combe seene eight foot long, and black all within. But in what region soever it be that honie is found, three kinds there be of it. First, the Spring honie, made of flowers onely; like as the combe also: and thereupon the Greekes call it Anthinon, which is as much to say as the Floure-honie. Some would not have this to be once touched, but to serve for nourishment of the young Bees, that the swarmes or casts may be more strong and lustie. Others againe leave for the Bees of none lesse than of it: by reason of the great plentie like to follow, at the rising of those notable starres in the Summer ensuing. Moreover, the combes are in their principall beautie about the Sunnestead in Summer, when daies be longest, at what time as the Vine and Thyme do begin to floure. Also, in taking forth of the honycombs, needfull it is to be well advised in ordering the matter for the provision of food for Bees. If they be cut short and destitute of their meat, they either despaire and die for want, or else depart and flie away. Contrariwise, if you leave them too much, plentie breeds idlenesse, that they will not labour: neither deigne they to feed of Erithace, their ordinarie food, but fall to the good honie. They therefore that bee well experienced in these matters, thinke it good to leave them the twelfth part of this store and vintage, if I may so say, which is gathered in the combes. And verily, it seemeth that Nature hath ordained a certaine set day for to begin this vintage, if men would take knowledge thereof, and marke it well; namely, the thirtieth day, after the Bees swarmed and went forth: and usually it falleth out, that this gathering commeth within the month of May. A second kind of honie there is, which we call Summer honie, and is named also Horæum, of that principall season wherein it is made, namely, in the very middest of dog daies, when the star Sirius is in his full strength: and that commonly is thirtie daies after the Sunne-stead. And I assure you, Nature hath shewed her admirable and excellent power to men ward in this behalfe; in case their fraud and deceit would suffer her workes in their entire and proper nature without corruption and sophistication, which marreth all, and maketh nothing but confusion. For upon the rising and apparition of any starre, and especially of those that be more excellent than the rest; or after that a rainebow is seene above the earth, and no showers of raine presently follow, but a drisling dew warmed with the raies and beames of the Sunne; yee shall have that which falleth, not to be bare honie, but a very medicinable thing, even a cœlestiall gift, singular good for eies and ulcers, yea, and comfortable to the principall noble parts within the bodie. And if this happen to be at the rising of the dog starre, and it chaunce withall, that upon the same day (as oftentimes it falleth out) *Venus*, *Jupiter*, or *Mercurie* be Orientall, then shall yee have so heavenly a sweet liquor, that no one thing in the world may bee comparable to it for the curing of all our maladies, and even to reduce and recover us backe from death to life, like unto that cœlestiall

and

A and divine Nectar, which immortalizeth the gods above.

Chap. xv.

The markes of good Honie.

More plentie of honie is gathered in the full of the Moone, than at any other time: and if therewith the weather be faire, the ſame will be more uncteous and fattie. In all kinds, the beſt honie is that, which runneth of it ſelfe as new Wine and Oile; and called it is Acedon, as a man would ſay, gotten without care and travell. All Summer-honie is red, as being made in the drieſt ſeaſon of the yeare. The honie which commeth of Thyme, is held to bee the
B beſt and moſt profitable: in colour like gold, in taſt right pleaſant; evident to be knowne by the little leaves therein: and the ſame is likewiſe fattie. That which is made of Roſemarie, or within the aire & vapour of the ſea, is thick: and ſuch verily as is thus candied, and will not run like life-honie, is nothing commendable. As for Thyme honie, it will not thicken: and if a man touch it, rope it will and draw ſmall ſlimie threds after it: which is a principall ſign of the weight and heavineſſe thereof. If honie be ſhort in the handling, and ſoone breake, and that the drops part one from the other, it is thought to be a token of the worſt and courſeſt of all. Another triall there is beſides of good honie, namely, if it be fragrant and odoriferous to ſmell unto, ſweet in taſt, and biting withall, or quicke at the tongues end, glutinous, and cleare. As touching the driving of hives for Summer honie, *Thaſius Dionyſius* is of opinion, that the tenth part thereof ſhould be
C left for the Bees, namely, if they were full: if not, than according to the proportion: but if they were but light and very thin, he would not have them to bee touched at all. The Athenians goe by this rule, and doe obſerve duly the Caprificiall day, which is kept holie unto *Vulcan*: for then they ever begin to drive their hives for this kind of honie.

Chap. xvi.

Of a third kind of Honie: and how a man ſhould know good Bees.

THere is a third ſort of wild honie, which the Greekes call *Ericæum, and is of leaſt reckoning. It is gathered after the firſt raine in Autumne, when the heath and lings only bloum
D in the woods, whereupon it ſeemeth as if it were ſandie. This kind of honie is engendered for the moſt part after the riſing of Arcturus, much about the Ides of September. Some there be that continue in gathering Summer honie unto the riſing of Arcturus: betweene which and the Autumne Æquinoctiall are 14 daies: & from thence unto the ſetting of the Vergiliæ (namely, for the ſpace of 48 daies) the ſaid heath is moſt in his blouming time. This ſhrub the Athenians call Tetralix; the Eubœans name it Siſara: and they repute it to be a flower moſt pleaſant to Bees, haply, becauſe at that time there is no plentie of other flowers. This gathering of honie is about the end of vintage, & the occultation of the Vergiliæ; and commonly endeth by the Ides of November. In driving of the hives for this honnie, by good reaſon, two [third] parts thereof would be reſerved for the Bees: and eſpecially thoſe corners of the combes, which have in them
E the proviſion called Erithace. From the mids of winter unto the riſing of Arcturus, for 60 daies Bees are nouriſhed only with ſleepe, without any other food. But from that time unto the Spring equinoctiall, and namely, where the weather is more warme, they are awake. Howbeit, they lie ſtil in their hive, & then fall to their victuals which they had laid up in ſtore againſt that time. But in Italie they do the like indeed after the riſing of the ſtar Vergiliæ: howbeit, untill then they do nothing but ſleep. And there verily, men uſe when they take the honie forth of the hives, to weigh the combs, and ſo by weight diſpence & ſet out how much they will leave them for their food: having this opinion, that they are bound to deale in juſtice & equitie even with the very Bees: inſomuch, as it is commonly ſaid, If they be defrauded of their due in this ſocietie & part-taking, and find falſehood in fellowſhip, they will die for greeſe: and ſo both the old ſtock will be loſt, and the
F hope alſo of a new increaſe. In the firſt place therfore, this is a rule, That ſuch folk only be ſet about this buſineſſe to drive the hives, who are neat and clean. A theefe, & a woman whiles ſhe is in her monthly ſickneſſe, they abhor. In the taking out of honie, the beſt means to drive away the Bees, is to ſmoke them out of the hive: for feare that you anger them, or that they devour the honie themſelves with more greedineſſe. Moreover, when they grow to be idle, perfuming and ſmoking

* Heath or Ling-honie.

of them thus now and then, maketh them more fresh to goe about their worke. For when they G
lie still and doe nothing, they make their combes look dead and blackish. Againe, if they be over-
much smoaked, they will be the worse for it: and surely, the very honie soone catcheth the hurt
hereof: for so tender and weake will it be, that with the least dew that is, you shall have it to turne
and waxe soure. And therefore in all kinds of honie they observe and keepe that which is called
Acapnon, [*i.* without smoke.] The honie gathered of both sorts of Thyme, called thereupon Bi-
thymum, is not white: howbeit, very good it is for eies and to cleanse ulcers.

Now as touching the generation of Bees, and how they multiply and encrease, much dispute
there hath been among the learned, and a nice question this is. For first and foremost, Bees were
never seen to engender one with another: and therefore most men have been of opinion, that
young Bees must needs be made of flowers fitly and handsomly laid togither and composed, ac- H
cording to Natures lore. Others say, that one master-Bee, which is the king in every swarme, doth
beget them all: and that he forsooth is the only male; bigger also than the rest and more strong,
because hee should not faint and faile in the action: for without such an one, we see there is no
breed: and him all the other Bees attend upon, not as their leader and captain, but as the female
follow the male. Certes this were a good conjecturall opinion, and sounding to a truth, but that
the breed of these Drone-bees above said, doth checke and overthrow it cleare: for what reason
is there that one and the same manner of procreation, should bring forth some perfect and o-
thers unperfect? The former opinion yet might seeme more probable, but for another difficul-
tie and inconvenience that crosseth it too: for otherwhiles in the utmost edges and sides of the
combs, there are seen to breed the bigger kind of Bees, which chase & drive the others away: and
this vermin is called Oestrus, [*i.* the gad-Bee or Horse-flie.] Now if those little wormes or grubs I
from whence the Bees come, were made of flowers, which they themselves formed and brought
into fashion, how commeth this gad-Bee, and whereof is hee made? This is certein, that Bees
couvie and sit as Hens doe: and that which is (after a sort) by them hatched, seemeth at the first
to be a little white grub or maggot, lying crosse overthwart the honey, and so fast sticking there-
to, as if it seemed to feed thereupon. The king that shalbe, at the very first is yellow, and of the
colour of honey; as if he were made of the most choise and excellent flower of all the rest: no-
thing like to a grub as the other, but presently hath wings. The rest of the multitude, when they
begin to take some shape, are called Nymphæ: like as the Dronès at the beginning, be tearmed
Sirenes or Cephenes. If a man take their heads from either sort, before they be winged, it is a
most pleasant and excellent meat for the old dams. In processe of time, as they grow bigger, the K
old Bees distill and drop meat into their mouthes, as they sit upon them: and then they keepe
most humming (as some thinke) for to set the combs into an heat, which is requisite and neces-
sarie for the hatching of them: and thus they continue, untill the little pellicles or membranes
be broken; within which, everie one lieth by it selfe, as egs: and then they break forth all togither
and shew themselves accomplished Bees. The manner and experiment hereof, was seene upon
a time in a ferme neare unto Rome, belonging to a Nobleman of Rome who somtime had been
Consull: for hee caused his hives to be made of lanterne hornes that a man might see through
into them. These young wormes be 45 daies before they come to their perfection.

There is found in some combs, a certaine bitter thing and hard like to wax, which the Latins L
call *Clerus*. This is as it were the abortive and untimely fruit of the Bees, to wit, when either by
maladie or idlenes, or rather upon some barrennesse and unfruitfull disposition by nature, Bees
are not able to bring the same to perfection.

As for the young Bees, they are not so soone abroad, but they begin to labour with their mo-
thers, and are trained by them to learne how to gather honey. This young people have a young
king also, unto whome they make court, and whome they follow. And many such kings are bred
at first, for feare least they should want: but when the Bees are growne bigge, they all agree with
one accord and voice, to kill those that be most untoward among them, for feare they should
make divisions, factions, and siding to parts. These kings be of two sorts: those that are red all
over, be better than the blacke or partie-coloured. All the race of them be verie faire and goodly M
to see to; and twice as big as the rest: their wings shorter, their legges streight; in their port
and manner of march, more stately: carrying in their front a white starre, like a diademe or co-
ronet: farre brighter also and more neat they be than the common sort.

CHAP.

A

Chap. xvii.

The regiment of Bees, and their government.

WHat ſhould a man now diſpute about *Hercules*, whether there was but one of that name or many? Likewiſe as touching the Sepulchre of Prince *Bacchus*, where and which it is? As alſo trouble his head in many other ſuch like antiquities, buried by long continuance of time. For behold, in one ſmall matter that is daily ſeene in our countrey houſes, in a thing annexed to our fermes, and whereof there is ſuch ſtore, all Authours who have written of Agriculture are not yet reſolved: namely, Whether the king of Bees alone hath no ſting, and
B is armed only with majeſtie? or, whether Nature hath beſtowed a ſting upon him, and denied him only the uſe therof? For certein it is, that this great commander over the reſt, doth nothing with his ſting: & yet a wonder it is to ſee, how they all are ready to obey him. When he marcheth abroad, the whole armie goeth forth likewiſe: then they aſſemble togither, & environ him round about; they are his guard, and ſo cloſe they keepe united togither, that they will not ſuffer him once to be ſeene. At other times, when all his people are buſie in labor, himſelfe (as a right good captaine) overſeeth their workes, goeth about from one to another, encouraging them in well-doing, and exhorting them to plie their buſineſſe: himſelfe onely exempt from all other travell and painstaking. About his perſon he hath a certain guard ever attendant: he hath his Lictors and officers alwaies in readineſſe, in token of majeſtie and princely port. Hee never ſetteth for-
C ward, but when the whole ſwarme is preſt likewiſe to goe forth: and in truth, long time before, a man may perceive that they be about a voiage and expedition; for, many daies togither there is an extraordinarie humming and noiſe within, whiles they prepare to diſlodge, truſſing up as it were their bag and baggage, and expecting onely a faire day of remoove. And ſuppoſe that the king have in ſome battaile loſt one of his wings, yet will not his hoaſt forſake him and flie. When they be in march, each one deſireth and ſtriveth to be next the prince, as taking a joy and pride to be ſeene of him, how luſtily they performe their devoir. If he begin to be wearie, they ſupport him with their ſhoulders: if hee be tired indeed and faint outright, they carry him full and whole. If any one of their owne companie chaunce to faile for very wearineſſe, and doe drag behind, or ſtray aſide and wander out of the way, it will yet endeavour to follow the armie
D only by the ſmell and ſent. Where the king once ſetleth and taketh up his reſting place, there they all pitch downe their tents and encampe. And I aſſure you, herein lieth a matter of great weight and importance; as touching the Auguries & preſages gathered by the manner of their ſetling, prognoſticating both to publicke ſtates and alſo to privat perſons, ſomthing to enſue of much moment, either for good or otherwiſe: according as they have been obſerved to hang togither in cluſters like bunches of grapes, either at mens houſes or upon the temples of the gods. By occaſion whereof, folke had recourſe to their devotions and ſacrifices, for to appeaſe the heavenly powers: and yet oftentimes ſuch foretokens have not ben expiat without ſome ſtrange events in the end. There was a ſwarme of Bees reſted upon the very lips and mouth of *Plato*, when he was but a very babe and infant; fore-ſhewing (no doubt) that ſingular eloquence of his,
E and ſweet utterance that afterwards he had. Another caſt of Bees ſetled within the very camp of Generall *Druſus*, the very ſame day, when he obtained that notable victorie at Arbalo. By which examples we may ſee, that this conjecturall skill and learning of theſe Soothſayers holdeth not alwaies, nor proveth ever true: for they forſooth ſuppoſe this to be evermore a portenteous ſign of ſome fearfull event and misfortune. To returne againe to our captain Bee: if he chaunce to be entrapped and ſurprized by the enemie, the whole armie is ſure withall to be taken with him. If he be deffeited and ſlaine, the field is loſt: all the reſt are ſcattered, and ſeeke their fortune to ſerve ſome other prince: for without one king or other, live they cannot. Sometime they are driven to kill thoſe of the kings race, and namely when there be many kings togither: but this they doe perforce and full againſt their wills: and before they will ſo doe, they chuſe rather to
F ruinate and put downe the houſes wherein they were bred; eſpecially when there is ſome feare of ſcarſitie, by reaſon of the unkind ſeaſon: and at ſuch a time alſo, they chaſe and drive away the drone-Bees. And yet I ſee ſome doubt made of them: for divers are of opinion, that they be a kind of Bees by themſelves, and that the reſt doe ſet againſt them as very theeves. The biggeſt they are of all others, but blacke and broad bellied: good reaſon therefore that they ſhould be

called

called Theeves, becauſe they come ſtealing and eat up their hony. Certein it is, that theſe drones G
be killed by the other Bees: and ſurely, king of their owne they have none. But how they ſhould be naturally without a ſting, there is ſome queſtion, and the ſame as yet not determined. This is well known, that in a moiſt and rainie ſpring, Bees multiply better: but if it be drie weather, there will be more encreaſe of honey. Now if it happen, that the meat in one hive be ſpent, the Bees belonging thereto will aſſaile their next neigbours, with intent to rob and ſpoile them of their proviſion. But they on the contrarie ſide, put themſelves in battaile aray, with full purpoſe to receive them againe. And if there chance to be a keeper by, to ſee the combat, that one part which perceiveth him to favor their ſide, will not once make at him for to ſting him. Other cauſes there are beſides, which make them often go togither by the ears: and then ſhall ye have two ſeverall captains to arraunge their battailons one againſt another. But moſt of all they brawle and jarre H
upon occaſion of gathering and carrying flowers, whiles they call each one to his owne companie, for to come forth and take part. But all this great fray is ſoone parted and diſpatched, either by caſting up ſome duſt among them, or by making a little ſmoke and perfume under them. And reconciled ſoon they be againe, with ſetting before them a meſſe of milke, or honied-water.

Chap. xviii.

Of the ſundrie ſorts of Bees in generall: and what things be contrarie and hurtfull unto them.

THere is a kind of ruſticall and wild Bee: and ſuch are more rough and hideous to ſee to: I
much angrier alſo and curſt than the reſt: howbeit, more laborious and painfull by farre. Of domeſticall and tame houſe-Bees, there are two ſorts. The beſt be thoſe that are ſhort, well truſt up and round, and withall, painted with ſundrie colours. The long ones be the worſe, and ſuch as reſemble waſpes: and yet the worſt of all others, bee thoſe that are hairie all over. Within the kingdome of Pontus there bee white Bees, and thoſe make honey twice in everie moneth. Moreover, along the river Thermodoon, there be two ſorts more. The one, gathereth hony in trees: others, within the ground, and bring great encreaſe thereof: for they frame their combs with a threefold courſe and ranke. The ſting that Nature hath given unto Bees, ſticketh within their bellies. Some are of opinion, that with the firſt prick they give with it, they die preſently. Others hold, that they die not withall, unleſſe they thruſt it forth ſo far, that ſome of the K
gut followeth after: mary howſoever it be, they become afterwards no better than drones: neither gather they any more honey, as if they were guelded of their vigor and ſtrength; ſo as they ceaſe to doe good and harme both at once. We find it written in Chronicles, that horſes have been ſtung to death by them. Filthie ſtinking ſavours they cannot abide, and namely, ſuch as be contagious; and from them will they flie farre enough. Nay more than that, ſure they will be to haunt and ſting them that ſmell as they goe of ſweet pomanders and odoriferous ointments, notwithſtanding they be otherwiſe themſelves ſubject to the injuries of moſt living creatures. For firſt and foremoſt, they are moleſted and aſſailed by thoſe of their owne nature, but yet degenerate and of baſtard breed, to wit, Waſpes and Hornets: alſo by a kind of Gnats called Muliones. Swallowes, Martins, and ſome other birds, make foule work among them, and are their L
mortall enemies. The Frogs lie in wait for them as they come to drinke: which is the principall worke they have to doe, when they be about to multiply and breed young. And not thoſe Frogs onely which keepe in ſtanding pooles and running rivers, but thoſe land-Frogs of a Todes kind will come of their owne accord from out of the brambles and briers where they keepe, and leap up to the very dore and entrance of the hive; where they will blow and breath in unto them: and when the Bees come flying forth thither, to ſee what the matter is, ſoone are they ſnapt up and devoured. And as for Frogs, all the ſort of them are ſuppoſed not to feele the prick of their ſting. Sheepe alſo are no friends of theirs: for if they get once entangled within their wooll, hardly can they get out again. Seeth but Crabfiſhes neer unto their hives, the very aire & ſmell therof will kill them. Over and beſides, Bees naturally are many times ſick; and that do they ſhew moſt evi- M
dently: a man ſhall ſee it in them by their heavie looks, and by their unluſtines to their buſineſſe: ye ſhall marke how ſome will bring forth others that be ſicke and diſeaſed, into the warme ſunne, and be readie to miniſter unto them and give them meat. Nay, ye ſhall have them to carie forth their dead, and to accompanie the corps full decently, as in a ſolemne funerall. If it chaunce that the

A the king be dead of ſome peſtilent maladie, the commons & ſubjects mourne, they take thought and grieve with heavie cheere and ſad countenance: idle they be, & take no joy to do any thing: they gather in no proviſion: they march not forth: onely with a certain doleſull humming they gather round about his corps, and will not away. Then requiſite it is and neceſſarie, to ſever and part the multitude, and ſo to take away the bodie from them: otherwiſe they would keepe a looking at the breathleſſe carcaſſe, and never go from it, but ſtill mone and mourne without end. And even then alſo they had need be cheriſhed and comforted with good victuals, otherwiſe they would pine away and die with hunger. To conclude, a man may ſoone know when Bees be well in health, by their chearefulneſſe and freſh hue that they carrie.

B

Chap. xix.

Diſeaſes of Bees.

THere be diſeaſes alſo and imperfections in their worke: and namely, when they fill not their combes, or bring not to perfection their young Bees. The ſirſt is called Cleros, like as the other Blapſigonia. Moreover, the ſound made by reverberation of the aire, which men call Eccho, is hurtfull unto them: for they feare mightily that reſounding noiſe, comming with a double ſtroke. Miſts and Fogs alſo trouble them much. As for Spiders, they be their greateſt enemies of all others, in caſe they can prevaile ſo much as to enter into the hive, and weave a copweb within it: for they kill all the Bees, and there is no remedie againſt it. Over and beſides, that Moth or Butterflie which uſeth to flie about the ſnuffe of a candle burning, (a poore ſilie flie otherwiſe and of baſe account) here doth much hurt, and that in divers ſorts. For not only it ſelfe eateth and gnaweth the waxe of their combes, but alſo they blow and leave behind them ſuch excrements as afterwards prove other moths. Alſo, whereſoever he goeth and flieth within the hive, he leaveth behind him a certaine ſubſtance, comming moſt from the duſtie downe of his wings, with which he thickeneth the threds (as it were) of copwebs. There breed likewiſe even in very wood, certain wormes, which above all things make means to eat the combes. What ſhould I ſpeake of their owne greedie feeding and glutting themſelves with too much liquour of the flowers, in the Spring time eſpecially? whereupon enſueth a daungerous fluxe and looſeneſſe of their bellie. As for Oile, it is not bane to Bees onely, but alſo to all other Inſects: eſpecially, if a man dip their heads in it, and then let them be in the Sunne; for preſently they will die of it. Many times Bees are cauſers of their owne death, with getting a ſurfet by exceſſive devouring of honie, namely, when they ſee it readie to be taken out of the hive: for otherwiſe they are very thriftie and overgreat ſparers, and ſuch, as at other times will drive out thoſe that waſt prodigally and be gluttinous, no leſſe than ſuch as be idle luskes, and ſlow at worke. Nay, even their owne honie doth them hurt: for if they be annointed therewith in their hinder parts, they will die upon it. Lo how many enemies this creature (ſo liberall and bountifull) hath! ſee, how many caſualties it is ſubject unto! and yet what be theſe I have alreadie rehearſed, in proportion and compariſon of thoſe which are omitted? Their remedies will we ſpeake of in convenient time and place: for this preſent, content I will my ſelfe to treat onely of their natures.

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Chap. xx.

How to keepe Bees to the hive: and the manner of repairing them.

BEes joy in the clapping of hands, and ringing of braſen baſons: at the ſound thereof they will aſſemble and come together. Whereby, it is a plaine caſe, that they have the ſence of hearing. When they have done their taske of worke; when they have brought forth their young ones, and fully accompliſhed all their devoire; then they performe a ſolemnitie of exerciſe: wherein after they have flowne abroad in the open aire at libertie, fetched their compaſſe about on high, gathered into rings and rounds in manner of tournament for their pleaſure: then at laſt when it is time of repaſt, they returne home againe. The longeſt time that they can live, (ſay, that they paſſe through all daungers, and no misfortune light upon them, but every thing that is adverſe, fall out well and happily) is not above ſeven yeares. And never was it knowne or heard of, that an hive continued above ten years. Some writers be of opinion, That dead Bees if they bee kept within houſe all a Winter, and when the Spring is come, bee laid forth in the hote

F

Sunne

Sunne to frie, and one whole daie be kept covered all over with figtree aſhes, they will revive and G
be quicke againe. But ſuppoſe they be not onely dead, but their bodies alſo loſt and gone, ſome ſay they may be repaired and a new ſwarme engendred, by laying the freſh paunches of oxen or kine newly killed, with the dung, garbage and all, within a dunghill there to putrifie. *Virgill* affirmeth, that the carkaſſes of any young ſteeres, will doe the ſame: like as dead horſes will breed Waſpes and Hornets: and Aſſes carrion turne to be Beetle-flies, by a certaine metamorphoſis which Nature maketh, from one creature to another. And yet there be none of all theſe, but are ſeene to engender: howbeit the manner of their breed is much after the nature of Bees.

Chap. xxi.

Of Waſpes and Hornets. H

WAſpes uſe to build them neſts on high, of earth and clay, and therein doe make their roomes and cells of wax. Hornets, in caves and holes under the ground. All theſe verily have their chambers made with ſixe corners, and yet their neſts conſiſt of ſome barke and ſubſtance like cobwebs. And as they be a barbarous and ſavage kind of creatures, ſo their young is not uniforme: one is readie to flie abroad, whiles another is yet but yong and not fledge, and a third a meere worme and grub ſtill. All theſe breed in the Autumne, and never in the Spring. When the moone is in the full, they encreaſe marveilouſly. As for the little Waſps, called Ichneumones (and leſſe they be than others) they uſe to kill one kind of Spiders called Phalangia, and carrie them into their neſts: they beſmeare them all over with a liniment, ſit over I
them, and ſo procreate their owne kind. Moreover, all the ſort of theſe live upon fleſh, contrarie to the manner of Bees, which will not touch a dead carcaſſe. But Waſpes hunt after the greater flies: and when they have whipt off their heads, carrie away the reſt of their bodies for their proviſion. The wild Hornets uſe to keepe in hollow trees. All winter time, like other Inſects, they lie hidden, and live not above two yeeres. If a man be ſtung with them, hardly he eſcapeth without an ague. And ſome have written, that 27 pricks of theirs will kill a man. The other Hornets which ſeeme to be the gentler, be of two ſorts. The leſſe of bodie, doe worke and travaile for their living, and they die when winter is come. But the greater ſort of them continue two yeeres: and thoſe alſo are nothing daungerous, but mild and tractable. Theſe make their neſts in the ſpring, and the ſame for the moſt part having foure dores or entries unto them, wherein the leſſer labouring Hornets aboveſaid, are engendred. When thoſe are quick, brought to perfection, and gotten abroad, they build longer neſts; in which they bring foorth thoſe that ſhall be mothers and breeders: by which time, thoſe young Hornets that worke, be readie to doe their buſineſſe and feed theſe other. Now theſe mothers appeare broader than the reſt: and doubtfull it is, whether they have any ſting or no? becauſe they are never ſeen to thruſt them forth. Theſe likewiſe have their drones among them, as well as Bees. Some thinke, that toward winter, theſe all doe looſe their ſtings. Neither Hornets nor Waſpes, have kings or ſwarms, after the manner of Bees: but yet they repaire their kind and maintaine their race by a new breed and generation.

Chap. xxii. L

Of Silkewormes: the Bombylius, and Necydalus. And who firſt invented ſilke cloth.

A Fourth kind of flie there is, breeding in Aſſyria, and greater than thoſe above-named, called Bombyx, [*i.* the Silkeworme.] They build their neſts of earth and clay, cloſe ſticking to ſome ſtone or rocke, in manner of ſalt: and withall ſo hard, that ſcarſely a man may enter them with the point of a ſpeare. In which they make alſo waxe, but in more plentie than Bees: and after that, bring forth a greater worme than all the reſt before rehearſed. Theſe flies engender alſo after another ſort; namely, of a greater worme or grub, putting forth two horns after that kind: and theſe be certain Cankerwormes. Then theſe grow afterwards to be Bomby- M
lij; and ſo forward to Necydali: of which, in ſix moneths after, come the ſilkeworms Bombyces. Silkeworms ſpin and weave webs like to thoſe of the Spiders, and all to pleaſe our dainty dames, who thereof make their fine ſilkes and velvets, forme their coſtly garments and ſuperfluous apparell, which are called Bombycina. The firſt that deviſed to unweave theſe webs of the Silke-

worme,

A worme, and to weave the ſame againe, was a woman in Coos named *Pamphila*, daughter of *Latous*: and ſurely ſhe is not to be defrauded of her due honour and praiſe, for the invention of that fine ſilke, Tiffanie, Sarcenet, and Cypres, which inſtead of apparell to cover and hide, ſhew women naked through them.

Chap. xxiii.

Of the Silkeworme in Cos.

IT is commonly ſaid, that in the Iland Cos there be certain Silkeworms engendred of flowers, which by the meanes of raine-ſhowers, are beaten downe and fall from the Cypres tree, Te-
B rebinth, Oke, and Aſh: and they ſoone after doe quicken and take life by the vapour ariſing out of the earth. And men ſay, that in the beginning, they are like unto little Butterflies naked; but after a while (being impatient of the cold) are overgrowne with haire; and againſt the winter, arme themſelves with good thicke clothes: for being rough-footed, as they are, they gather all the cotton and downe of the leaves which they can come by, for to make their fleece. After this, they fall to beat, to felt and thicken it cloſe with their feet, then to card it with their nailes: which done, they draw it out at length, and hang it betweene braunches of trees, and ſo kembe it in the end to make it thin and ſubtill. When all is brought to this paſſe, they enwrap and enfold themſelves (as it were) in a round ball and clew of thread, and ſo neſtle within it. Then are they taken up by men, put in earthen pots, kept there warme, and nouriſhed with bran, untill ſuch time as
C they have wings according to their kind: and being thus well clad and appointed, they are let go to doe other buſineſſe. Now as touching the wooll or fleece which they have begun, men ſuffer it to relent in ſome moiſture, and ſo anon it is ſpun into a ſmall thread, with a ſpindle made of ſome light Kex or Reed. This is the making of that fine Say, whereof ſilke cloth is made; which men alſo are not abaſhed to put on and uſe, becauſe in ſummer time they would goe light and thin. And ſo farre doe men draw backe now a daies from carrying a good corſlet and armour on their backes, that they thinke their ordinarie apparell doth over-lode them. Howbeit, hitherto have they not medled with the Aſſyrian Silkworme, but left it for the fine wives and dames of the city.

Chap. xxiiii.

D

Of Spiders, and their generation.

IT were not amiſſe to joine hereunto a diſcourſe of Spiders, for their admirable nature, which deſerveth a ſpeciall conſideration. Wherein, this is firſt to be noted, that of them there be many kinds, and thoſe ſo well knowne unto every man, that needles it is to particularize and ſtand much upon this point. As for thoſe which be called Phalangia, their ſtinging and biting is venomous, their bodie ſmall, of divers colours, and ſharpe pointed forward; and as they goe, they ſeeme to hop and skip. A ſecond ſort be blacke, and their feet are exceeding long. All of them have in their legs, three joints. The leaſt of this kind, called Lupi, ſpin not at all nor make any webs. The greater, ſtretch foorth their webs before the ſmall entries into their holes within the
E ground. But the third kind of Spiders, be they which are ſo wonderfull for their fine ſpinning and skilfull workmanſhip: theſe weave the great and large cobwebs that wee ſee; and yet their verie wombe yeeldeth all the matter and ſtuffe whereof they be made. Whether it be, that at ſome certein ſeaſon naturally their belly is ſo corrupt (as *Democritus* ſaith:) or that within it there is a certain bed (as it were) which engendreth the ſubſtance of ſilke. But ſurely whatſoever it is, ſo ſure and ſteadie nailes the Spider hath; ſo fine, ſo round, and even a thread ſhe ſpinnes, hanging thereunto her ſelfe, and uſing the weight of her owne bodie in ſtead of a wherve; that a wonder it is to ſee the manner thereof. Shee beginneth to weave at the very mids of the web, and when ſhe hath laid the warpe, bringeth over the woofe in compaſſe round. The maſhes and marks ſhe diſpenſeth equally by even ſpaces; yet ſo, as every courſe groweth wider than other: and albeit
F they do encreaſe ſtill from narrow to be broader, yet are they held and tied faſt by knots that can not be undone. Marke, I pray you, how artificially ſhe hideth the ſnares in that net of hers, made into ſquares, to catch the poore flies. A man would not thinke (who ſeeth the long yarne in her web wrought ſerce-wiſe, ſmoothed and poliſhed ſo cunningly, and the verie manner of the woofe ſo glewiſh and clammie as it is, of it ſelfe) that all were to any purpoſe, and ſerved for that which

ſhe

ſhe intendeth. See withall, how ſlacke and hollow the net is made, to abide the wind, for feare of breaking: and thereby ſo much the better alſo to fold and enwrap whatſoever commeth within her reach! What a craft is this of hers to leave the upper part thereof in the front undone, as if ſhe were wearie (for ſo a man may gueſſe, when he can hardly ſee the reaſon) and (as it is in hunters net and toile) that ſo ſoone as thoſe nets be ſtumbled upon, they ſhould caſt the flies headlong into the lap and concavitie of the net? To come now unto her neſt and hole: Is there any Architecture comparable to the vault and arched frame? And for to keepe out the cold, how is it wrought with a longer and deeper nap than the reſt! What ſubtiltie is this of hers, to retire into a corner ſo farre from the mids, making ſemblance as though ſhe meant nothing leſſe than that ſhe doth, and as if ſhe went about ſome other buſineſſe! Nay, how cloſe lyeth ſhe, that it is impoſſible for one to ſee, whether any bodie bee within or no! What ſhould I ſpeake of the ſtrength that this web hath to reſiſt the puffes and blaſts of winds? of the toughneſſe to hold and not breake, notwithſtanding a deale of duſt doth weigh and beare it downe? Many a time ye ſhall ſee a broad web reaching from one tree to another: and this is when ſhe learneth to weave and beginneth to practiſe and trie her skill. She ſtretcheth a thread, and warpeth in length from the top of the tree downe to the very ground; and up again ſhe whirles moſt nimbly by the ſame thread: ſo as at one time, ſhe ſpinneth and windeth up her yarne. Now if it chaunce that any thing light into her net, how watchfull, how quick-ſighted, how readie is ſhe to run? Be it never ſo little ſnared even in the very skirt and utmoſt edge thereof, ſhe alwaies skuds into the mids; for ſo by ſhaking the whole net, ſhe entangleth the flie or whatſoever it be, ſo much the more. Looke what is ſlit or rent therein, ſhe preſently doth mend and repaire, and that ſo even and ſmall, that a man cannot ſee where the hole was derned and drawne up againe. Theſe Spiders hunt alſo after the yong Lizards: firſt they enfold and wrap the head within their web: then, they catch hold and tweake both their lips togither, and ſo bite and pinch them. A worthy ſight and ſpectacle to behold, fit for a king, even from the ſtately Amphitheatres, when ſuch a combat chanceth.

Moreover, there bee many preſages and prognoſtications depend upon theſe Spiders: for againſt any inundations and overflowings of rivers, they weave and make their cobwebs higher than they were wont. In faire and cleare weather, they neither ſpin nor weave: upon thicke and cloudie daies, they be hard at worke: and therefore many cobwebs be a ſigne of raine. Some thinke, it is the female that ſpinneth and weaveth; and the male, which hunteth and getteth in the proviſion for the familie: thus ordering the matter equally in earning their living, as man and wife togither in one houſe. Spiders engender togither with their buttocks, and little worms they doe lay like egs. For, conſidering that the generation of all Inſects beſides, in a manner can be declared and ſhewed no otherwiſe, I muſt not deferre the relation of it, being ſo admirable as it is. Well then, theſe egs they do lay in their webs, but ſcattering here and there, becauſe they uſe to skip and leape when they thruſt them forth. The Phalangius onely ſitteth upon the egges within the very hole, and thoſe in great number: which begin not ſo ſoon to peepe, but they eat the mother, yea and oftentimes the father likewiſe, for he helpeth her alſo to coove. And theſe kind of Spiders bring commonly 300 at a time: whereas all the reſt have fewer. They ſit ordinarily thirtie daies. As for yong Spiders, they come to their full growth and perfection in 4 weeks.

Chap. xxv.

Of Scorpions.

Semblably, the land Scorpions doe lay certaine little worms or grubs in manner of egs: and when they have ſo done, periſh likewiſe for their labour, as the Spiders. Their ſtings be as venomous and daungerous, as thoſe of ſerpents: and albeit there enſue not thereupon ſo preſent death, yet they put folke to more paine a great deale; inſomuch as they languiſh and lie drawing on three daies before they die. If a maiden be ſtung with one of them, ſhe is ſure to die of it: other women alſo for the moſt part catch their death thereby, and hardly eſcape. Yea and men alſo find their poiſon to be mortall and deadly, if they be ſtung in a morning by them when they creepe newly out of their holes, faſting, and before that they have diſcharged their poiſon by pricking one thing or other firſt. Their ſting lieth in their tails, and readie they are with it alwaies to ſtrike. There is not a minute of an houre but they practiſe and trie how they can thruſt it forth, (ſo malicious they be) becauſe they would not looſe and miſſe the firſt opportunitie preſented

unto

A unto them. They ſtrike both ſidelong or byas, and alſo crooked and bending upward, with their taile. The poiſon that commeth from them, is white, as *Apollodorus* ſaith: who alſo hath ſet down nine ſorts of them, and diſtinguiſhed them by their colours, which me thinkes, was but ſuperfluous and more than needed; conſidering that a man cannot know by his diſcourſe, which of them he would have to be leaſt hurtfull and noiſom. He affirmeth, that ſome have double ſtings, and that the males are more curſt and cruell than the females: for he avoucheth, that they doe engender togither, and that the males may be knowne by this, That they are long and ſlender. Moreover, that they be all of them venomous about mid-day, when they bee enchaffed and ſet into an heat, by the ſcalding and ſcortching ſunne: alſo when they be drie and thirſtie, they cannot drinke their full and quench their drought. This is well knowne, that thoſe which have ſeven
B joints in their tailes, be more fell than the reſt: for it is ordinarie in them to have but ſix. In Affricke, this peſtilent creature uſeth to flie alſo, namely, when the Southerne winds blow, which carrie them aloft in the aire and beare them up as they ſtretch forth their armes like oares. The ſame *Apollodorus* before-named avoucheth plainly, that ſome of them have very wings indeed. The people called Pſylli (who making a gainfull trade and merchandiſe of it, to bring in hither unto us the poiſons of other countries, and by that meanes have filled Italie with forrein venomous beaſts) have many times aſſaied to bring them hither; but never would they abide ſo much as the aire of Sicilie, nor live in that tract. Howbeit we ſee of them now and then in Italie, but harmleſſe they be all: like as in many other places beſides, and namely about Pharus in Ægypt.
In * Scythia they be ſo daungerous, that they kill their hogs; which otherwiſe be creatures that
C can eat ſuch poiſons, and yet live and doe full well. And if it be true that is ſaid, the black ſwine die more ſpeedily, eſpecially if after they be ſtung, they goe into the water and drench themſelves. If a man bee ſtung with a Scorpion and drinke the powder of them in wine, it is thought to be preſent remedie. Men hold, that nothing is more contrary unto them than oile, if they be dipped therein: as alſo to the Stelliones, which are made like Lizards, and doe no hurt to them onely, becauſe they are without bloud. Like as the Scorpions alſo are ſaid to be harmleſſe to any thing that is bloudleſſe. Some are of opinion, that they likewiſe devoure their young, ſave onely one who is more ſlie and craftie than the reſt, who gets upon the rumpe behind of the mother, and there ſits, being aſſured that he is ſafe enough in that place, both from ſting of taile and tooth in mouth. This Scorpion revengeth the death of his other brethren and ſiſters: for in the end
D he skips upon the back of father and mother both, where he gnaweth and eateth them to death. To conclude, Scorpions uſually doe breed eleven young ones at a time.

* Or rather in Caria.

Chap. XXVI.

Of Stellions and Graſhoppers.

THe Stellions after a ſort be of the nature of Chamælcons, living onely upon dew and Spiders. Graſhoppers alſo live much after the ſame manner. And they be of two ſorts; namely, the leſſer, which come firſt, and die laſt: but thoſe be mute. The latter breed, ſeldome or never flie: and thoſe likewiſe are of two kinds. Such as ſing alowd, be named Echetæ; and the
E leſſer ſort of them Tettigoniæ: but thoſe other are more ſhrill, and chant full merrily. The male Graſhoppers in both kinds, doe ſing: the females are ſilent. The people of the Eaſt countries make their food of them: even the very Parthians, who otherwiſe abound in wealth. The hee Graſhoppers are the ſweeter meat before the time of engendring: and the ſhee Graſhoppers afterward, by reaſon of egs knotted within them, and thoſe be white. They engender with their bellies upward. They have a certain roughneſſe upon their backs, which is very ſharpe, and therwith they worke a hollow gutter in the ground, as a neſt to lay their egs and breed in. At the firſt, appeareth a little worme or magot; whereof commeth afterward that which they call Tettigometra, as one would ſay, the mother of Graſhoppers, or the great graſhopper. For about the Sunſtead in Summer, the utmoſt cruſt or caſe thereof breaketh, and then out they flie, and
F alwaies in the night. At the firſt, blacke they be and hard withall. Of all creatures that are known to live, the Graſhoppers alone have no mouth: in ſtead whereof, they have a certaine ſharpe pointed thing in their breaſt (like unto their tongues that carrie ſtings in their mouths) and with it they ſucke and licke in the dew. Their breaſt is full of little pipes, from whence commeth that ringing noiſe of the Echetæ which we doe heare, as I have above ſaid. Moreover, their bellie is

emptie and hath nothing in it. When a man raiſeth them, ſo as they bee thereby forced to flie, they yeeld foorth a certaine humour: which is the onely argument that they bee nouriſhed of the dew. They have moreover this one marke from all other creatures living, namely, no concavitie of their bodie to be ſeen whereby to void out any excrements. So dim-ſighted they be, that if a man chaunce to come neare unto them, plucking in and ſtretching out his finger before them, they will preſently leape upon it, ſuppoſing that it is ſome leafe that waggeth. Writers there bee, that make two more kinds of them, namely, the greater, which appeare at the firſt ſpring and budding of trees; whereupon it is called Surcularia: and a leſſer, which ſome name Frumentaria, others Avenaria. For this ſheweth it ſelfe when corne is ripe and begins to die in the ſtraw. G H

Chap. xxvii.

Places wherein there be no Graſhoppers: alſo where they are mute.

IN countries bare and naked of trees and wood, there breed no Graſhoppers: and therefore ye ſhall have them at Cyrene, about the towne, but not in the plaines and fields thereof. Neither ſhall a man meet with them in woods that be cold and full of ſhade. It ſeemeth alſo, that they take a liking to ſome one quarter more than another: for in the region of the Mileſians, few places there be that have them: but in Cephalenia, there is a river that doth limit and bound them: for of the one ſide there be plentie of them; and on the other, few or none. In the territorie of Rhegium they be all mute. Paſſe the river once and come into the Locrians countrey, yee ſhall heare them chaunt luſtily. Wings they have like to thoſe of Bees, but larger, to the proportion of their bodies. I

Chap. xxviii.

The wings of Inſects, and ſundrie kinds of Beetles.

OF Inſects, ſome carrie two wings about them, as the flies: others foure, as Bees. As for Graſhoppers, they flie with wings made like pellicles or fine skins. In ſumme, all Inſects which be armed with a ſting in their bodie or taile, have foure a peece: and none againe have above twaine that carrie their offenſive weapon in the mouth. To the former, Nature hath given it for to revenge; to the other, onely to feed themſelves, and content their appetite. Moreover, plucke from any of them their wings, there will never come new in the place. None that have a ſting in their taile, be double winged. Some Inſects there be, which have growing a certaine huske or cod over their wings, for the ſafeguard and defence thereof, as the Beetles: and the wings of ſuch be thinner and more brittle than others. Sting have they none, but a certaine kind of the great ones be armed with two long hornes boking out before them, and two-forked they be and toothed like pinſons, in the top, which (when they liſt) they can bring togither and make them meet, and ſo nip and bite withall. Theſe Beetles, folke uſe to hang about the necke of young babes, as preſent remedies againſt many maladies. Such Beetles, *Nigidius* calleth Lucanes. Over and beſides, there is another ſort, which tumbling upon their backe in dung, do roll it into great round balls with their feet; and therein doe make neſts for to beſtow the little grubs (which are their young) againſt the cold of winter. Some there be that uſe to flie up and down, and where ever they go, make a great buzzing noiſe as if they lowed. Ye ſhall have others again that keepe in medowes; yea and Creckers that haunt the hearth and ſtocke of chimnies, where the make many holes, and lie cricking alowd in the night. K L

The Glo-wormes, are named by the Greeks Lampyrides, becauſe they ſhine in the night like a ſparke of fire: and it is no more but the brightnes of their ſides and taile: for one while as they hold open their wings, they glitter; another while when they keepe them cloſe togither, they be ſhadowed and make no ſhew. Theſe Glowbards never appeare before hay is ripe upon the ground, ne yet after it is cut downe. Contrariwiſe, the flies called Blattæ, live and be nouriſhed in darkeneſſe: light is an enemie unto them, and from it they flie. They breed commonly in baines and ſtouves, of the moiſt vapours that be there. Of the ſame kind there be other great Beetles red in colour, which worke themſelves holes in the drie earth, where they frame certaine receptacles like unto Bees combs, little and ſmall, full of pipes reſembling hollow ſpunges; and M

all

A all for a kind of bastard honey, whereof yet there is some use in Physicke. In Thrace neare to Olynthus, there is a little territorie or plot of ground, where this one creature (among all other) cannot live; whereupon the place is called Cantharolethus. The wings generally of all Insects, bee whole, without any slit: and none of them hath a taile but the Scorpion. Hee alone hath not onely armes, but also a sting in the taile. As for the rest, some of them have a sharpe pricked weapon in their muzzle, as namely, the Breese or great Horse-flie, called in Latine *Asilus* or *Tabanus*, whether you will. Likewise Gnats also, and some kind of flies. And these prickes serve them in good stead both for mouth and tongue. Some of these are but blunt, and not good for to pricke, but onely handsome to sucke withall, as flies, which have all of them a tongue, beeing evidently fistulous and like a pipe. And none of all these have any
B teeth. There be Insects with little hornes proaking out before their eyes, but weake and tender they be, and good for nothing; as the Butterflies. And there bee againe, that are not winged, and such be the Scolopendres. All Insects that have legges and feet, goe not directly, but bias and crooked. Of which, some have the hinder legges longer than the former, and such bend hooked outward; as the Locusts.

Chap. xxix.

Of Locusts.

C THe Locusts lay egges in Autumne, by thrusting downe into the ground the fistule or end of their chine, and those come forth in great abundance. These eggs lie all winter long in the earth; and at the end of the spring the yeere following, they put out little Locusts, blacke of colour, without legs, and creeping upon their wings. Hereupon it commeth, that if it be a wet spring and rainie, those egs perish and come to no good: but in a drie season, there will be greater encrease and store of Locusts the Summer ensuing. Some writers hold opinion, that they lay and breed twice a yeare: likewise that they perish and die as often. For they say, that when the star Vergiliæ doth arise, they breed: and those afterwards about the beginning of the Dog-daies, die; and others then come in their place. Others say, that they engender and breed againe their second litter, at the full or setting of Arcturus. True it is indeed, that the mothers die so
D soone as they have brought foorth their little ones, by reason of a small worme that presently breedeth about their throat, which choketh them. And at the same time, the males likewise miscarrie. See what a little matter (to speake of) bringeth them to their death! and yet a woonder it is to consider, how one of them when it list will kill a serpent: for it will take him fast by the chaws, and never lin biting untill shee hath dispatched him. These little beasts breed no where but in plaine and champion countries, namely, such as be full of chinkes and crevises in the ground. It is reported, that there be of them in India, three foot long: where the people of the countrey use their legs and thighes for sawes, when they be throughly dried. These Locusts come by their death another way, besides that above-named: for when the wind taketh them up by whole troupes togither, they fall downe either into the sea, or some great standing pooles. And this many a time happeneth by meere chaunce and fortune; and not (as many have supposed in old
E time) because their wings are wet with the night dew. For even the same Authors have written, that they flie not in the night for cold. But little know they, that it is ordinarie with them to passe over wide and broad seas, and to continue their flight many daies togither without rest. And the greater wonder is this, that they know also when a famine is toward: in regard wherof, they seeke for food into farre countres: in such sort, as their comming is ever holden for a plague of the gods, proceeding from their heavie wrath and displeasure. For then commonly they are bigger to be seene, than at other times: and in their flight they keepe such a noise with their wings, that men take them for some straunge foules. They shade and darken the very Sunne as they flie, like unto a great clowd: insomuch, as the people of every country behold them with much feare, least they should light in their territorie, and over-spread the whole countrey. And verily
F their strength is such, that they hold out still in their flight: and as if they had not enough of it to have flowne over seas, they give not over to traverse mightie great countries in the continent. And looke in what place soever they settle, they cover whole fields of corne with a fearfull and terrible clowd: much they burn with their very blast, and no part is free but they eat and gnaw even the very dores of mens dwelling houses. Many a time they have been knowne to take

their flight out of Affricke, and with whole armies to infest Italie: many a time have the people of Rome, fearing a great famine and scarcitie toward, beene forced to have recourse unto *Sibyls* bookes for remedie, and to avert the ire of the gods. In the Cyrenaick region within Barbarie, ordained it is by law, every three yeares to wage warre against them, and so to conquer them: that is to say, first to seeke out their neasts, and to squash their egges; secondly, to kill all their young; and last of all, to proceed even to the greater ones, and utterly to destroy them: yea, and a grievous punishment lieth upon him that is negligent in this behalfe, as if hee were a traitour to his prince and countrey. Moreover, within the Iland Lemnos there is a certaine proportion & measure set down, how many & what quantitie every man shall kill; and they are to exhibit unto the magistrate a just and true account therof, and namely to shew that measure full of dead Locusts. And for this purpose they make much of Iaies, Dawes, and Choughs, whom they doe honour highly, because they flie opposite against the Locusts, and so destroy them. Moreover, in Syria they are forced to levie a warlike power of men against them, & to make riddance by that means. See in how many parts of the world this hurtfull and noisome vermine is dispersed and spread: and yet in Parthia they are taken for very good meat. The voice that they have (such as it is) seemeth to come from the hinder part of their head: for about that place where the joincture is of the shoulders to the nape of the necke, they are supposed to have certaine teeth, which by grating and grinding one against the other, doe yeeld a kind of crashing noise: and namely, about the time of both the Æquinoctials: like as the Grashoppers at midsummers Sunstead. Locusts engender after the manner of all other Insects which do engender: to wit, the female carieth the male: and she lying underneath, bendeth up the very end of her taile against the other: and thus they continue a good while ere they part asunder. To conclude, the males of all this kind be lesse than the females.

Chap. xxx.

Of the ordinarie Pismires of our countrey in Italie.

Most part of Insects do breed a grub or little worme. For even the very Ant in the Spring time doth bring forth such wormes like egges. These silie creatures labour and travell in common, as the Bees doe: this onely is the difference, that Bees doe make their owne meat; whereas these store up only their food and provision. As touching their strength, if a man would compare the burdens that they carie, with their own bodies, he will find and confesse, that there is not a creature againe in the world, for that proportion, stronger. And how doe they carrie them? even with their very mouths. Howbeit, if they meet with any greater load than they can bite betweene their chawes, then they set their shoulders to it, and with their hinder legs allo make meanes to drive it forward. They have among them a certain forme of Commonwealth: they remember: they are not without care and fore-cast. Looke what seeds or graines they do lay up for provision, sure they will be to gnaw it first, for feare they should sprout and take root again and so grow out of the earth. If a corne or seed be too big for their carriage, they divide it into peeces, that they may goe with it more easily into their house. If their seeds within, chaunce to take wet, they lay them abroad, and so drie them. They give not over worke by night, when the Moone is at the full: but when she is in the change, they rest and play them. When they are at worke, how painefull are they? how busie, how industrious? And for as much as they make their purveiance in diverse places, and bring from all parts, without knowledge one of the other: they keepe among them certain market daies, for a mutuall enterview and conference together. And verily, it is a world to see, how then they will assemble; what running, what greeting, what entercourse and communication there is betweene them, whiles they are inquisitive, as they meet one with another, What newes abroad: even like marchants at a Burse. Their waifare is so ordinarie and continuall, that wee may see the very hard flint and pebble stones worne with their passage too and fro: wee may see (I say) a very path-way made where they use to goe about their worke: whereby, let no man doubt of what force and power continuall use is, of any thing whatsoever, be it never so little. Of all living creatures, they onely and men, doe enterre and burie their dead among them. To conclude, throughout all Sicilie a man shall not see a flying Ant.

Chap.

A

Chap. xxxi.

Of Indian Pismires.

IN the temple of *Hercules* at Erythræ, there were to bee seene the hornes of a certaine Indian Ant, which were there set up and fastened for a wonder to posteritie. In the countrey of the Northerne Indians named Dardæ, the Ants doe cast up gold above ground from out of the holes and mines within the earth: these are in colour like to cats, and as big as the *wolves of Ægypt. This gold beforesaid which they worke up in the winter time, the Indians do steale from them in the extreame heat of Summer, waiting their opportunitie, when the Pismires lie close within their caves under the ground, from the parching Sun: yet not without great daunger. For if they happen to wind them and catch their sent, out they goe, and follow after them in great haste: and with such furie they flie upon them, that oftentimes they teare them in peeces; let them make way as fast as they can upon their most swift Camels, yet they are not able to save them. So fleet of pace, so fierce of courage are they, to recover gold that they love so well.

*Or Foxes.

B

Chap. xxxii.

The diverse generation of some Insects.

MAny Insects there be that breed after another sort, than the former above specified: and principally of dew, which setleth upon the Radish leafe in the beginning of Spring. For being made thicke, and hardened with the heat of the Sunne, it groweth to the bignesse of the graine of Millet. From it ariseth a little grub, and three daies after it becommeth a kind of canker-worme: and so in processe and tract of time it groweth bigger without mooving at all, and gathered an hard huske or case about her: onely if a man touch the webbie panicles, wherein the said worme lieth enwrapped, it will seeme to stir. This is called Chrysalis: and after some time, when the kex or huske is broken, he proveth a faire flying butter-flie.

C

Chap. xxxiii.

Of Insects that breed in wood, and of wood.

D

SEmblably, there be some Insects engendred of raine drops standing upon the earth; and others also in wood. For not onely the ordinarie wood-wormes breed in timber, but also certaine Brees and Horse-flies come of it, yea, and other such like, whensoever the wood is dotted with overmuch moisture. Like as within one of our bodies there have been found broad wormes, of thirtie foot in length, yea, and sometimes with the vantage. Also there have ben seen in dead carions many wormes: and the very flesh of men whiles they be alive, is apt to breed such vermine: and so is the haire of the head to harbour lice; of which filthie and lothsome creatures, both *Sylla* the Dictatour, and also *Aleman* (one of the most renowmed Greeke Poets) perished. Moreover, birds are much infested and troubled therewith. And as for Feasants, they will die therof, unlesse they bestrew themselves with dust. Of such beasts as carie haire, it is verily thought that the Asse alone and Sheepe are free from this kind of vermine. Some kind of cloth likewise is apt to engender lice, & especially those which are made of wooll, that Sheepe bare which were worried of Wolves. Over and besides, I find in some writers, That there is some water will engender this vermine, if we doe but wash therein. For even in waxe there will breed mites, but such are thought to be of all creatures that have life, the very least. Also, ye shall have others again engender of filthie drie dust, namely, fleas, which use to skip and hop with their hinder feet lustily like these tumblers and vautours. Last of all, there be that come of a certaine moist powder in cranies of the ground, and those be our ordinarie little flies.

E

Chap. xxxiiii.

F

Of one kind of creature that hath no passage to void excrements.

THere is a creature as foule and illfavoured as the rest, which hath evermore the head fast sticking within the skin of a beast, and so by sucking of bloud liveth, and swelleth withall. The only living creature of all other that hath no way at all to rid excrements out of the

bodie: by reaſon whereof, when it is too full, the ſkin doth cracke and burſt, and ſo his very food is cauſe of his owne death. In Horſes, Aſſes, and Mules, theſe doe never breed. In Kine and Oxen they be common: and otherwhiles in dogs, who are peſtered not onely with theſe tickes, but alſo with all other vermine abovenamed. And in Sheepe and Goats a man ſhall find none other but tickes. It is as ſtrange a thing alſo to ſee, how the horſeleeches which be nouriſhed in ſtanding waters of fennes, are thirſtie after bloud. For theſe will thruſt their whole head into the fleſh for to draw and ſucke out bloud. Finally, there is a kind of flies that plagueth dogges, and none els: they are buſie commonly about their eares, where they will bite & ſting them ſhrewdly; for there they cannot come by them with their teeth to ſnap and kill them.

Chap. xxxv.

Of Moths and Gnats.

WOoll and cloth when they be duſtie breed moths, eſpecially if a Spider alſo be gotten within them. For the Spider is very thirſtie, and by reaſon that he drinketh up all the moiſture of the cloth or wooll, he increaſeth the drineſſe much more. In paper alſo they will engender. A kind of them there is that carie their coats and caſes with them, as Cockles and Snailes doe: but they have feet to be ſeen. If they be turned out of their coats or husks, they preſently die. If they grow ſtill, they will proove to be Chryſalides. The wild fig-tree doth breed certaine Gnats called Ficarij. As for the Cantharides or French greene flies, they be bred of little wormes in Fig-trees, Peare-trees, wild Pines or Pitch-trees, the Eglantine brier, and Roſes: A venomous vermine this is, howbeit, medicinable in ſome ſort. The wings be they that are good in Phyſicke: caſt them away, and the reſt is deadly. Moreover, there be other Gnats, that foure things will engender. And no marvell, ſeeing that there be ſome wormes found in ſnow, & thoſe are white, if the ſnow be but thin and new fallen. But in caſe it have lien long, and be deepe, a man ſhall find in the mids within, thoſe that are red, (for ſnow alſo if it be old, waxeth red) rough and hairie, greater alſo than the reſt, and dull of motion.

Chap. xxxvi.

Of the fire-flie, called Pyralis or Pyrauſta.

THe fire alſo, a contrarie element to generation, is not without ſome living creatures engendred therein. For in Cypres, among the forges and furnaces of copper, there is to be ſeen a certaine foure-footed creature, and yet winged, (as big as the greater kind of flies) to flie out of the very middeſt of the fire: and called it is of ſome Pyralis, of others Pyrauſta. The nature of it is this: So long as it remaineth in the fire, it liveth: but if it chaunce to leape foorth of the furnace, and to flie any thing far into the aire, it dieth. There is a river in the kingdome of Pontus called Hypanis, which about the Summer Sunneſtead, uſeth to bring downe the ſtreame certain thin pellicles or bladders like unto grape kernils: out of which there breaketh forth and iſſueth a foure-footed flie, like unto thoſe abovenamed: and it liveth not above one day, whereupon it is called Hemerobion, [*i.* a day-flie.] All other Inſects of like ſort, may continue and live a ſevennight. The Gnat and the little wormes, three weekes: but ſuch as bring foorth their young alive, may endure a full month. As for the Metamorphoſis of theſe creatures from one forme to another, it is moſt commonly performed in three daies, or foure at the moſt. All the reſt of the winged kind, lightly die in Autumne: among which, the Brees and Horſe-flies are ordinarily blind firſt. To be ſhort, thoſe flies which have been drowned, and ſo come to their death, if they be laid and kept in hote cinders or aſhes, will come againe to themſelves, and revive.

Chap. xxxvii.

A diſcourſe Anatomicall, of the nature of living creatures, part by part, according to their particular members.

The head. IT remaineth now to treat of the ſeverall parts of the bodie, and over and above the former deſcription, to particularize and ſet downe the ſtorie of one member after another. Firſt therfore, this is generall, that all living creatures whatſoever having bloud, have alſo heads. And few

A few of them have cops or creſted tufts upon their heads, unleſſe it be birds, and thoſe are of diverſe formes & faſhions. The Phœnix is adorned with a round plume of feathers, out of the mids of which there groweth another little pennache. Peacockes carie upon their heads a tuft (as it were) of little hairie trees: and the Stymphalides, a locke of criſped and curled haires. Pheſants have feathers ſtanding up like hornes. The pretie Titmouſe or Nonett is filletted or coifed upon the head: and in lieu thereof, the Larke hath a little peruke of feathers, and thereupon at firſt it was called Galerita, but afterwards after the French word Alanda, and of it one of the Romane Legions tooke the name, becauſe of their pointed morions. Wee have written alreadie of the Ginnie or Turkie Cockes and Hens, upon whom Nature hath beſtowed a folding creſt, lying from the very bill, over the middeſt of the head, unto the nape of the necke. She hath given like- Creſts, Tufts, and Combes.

B wiſe unto all the ſort of Seamewes, Fen-duckes, and Moore-hens, certain cops and criſped tuffes: to the Woodpeck alſo and Baleare Crane. But above all others, the houſe dunghill Cocks carie upon their heads the goodlieſt ornament of their comb, and the ſame conſiſting of a maſſie and fleſhie ſubſtance, endented beſides like a ſaw. And yet we may not properly ſay it is either fleſh, griſtle, or calloſitie, but compoſed of ſome particular matter by it ſelfe, which cannot well bee named. As for the creſts of Dragons, I could meet with no man hitherto that ever ſaw them.

To come now to Hornes, there be many fiſhes (as well of the ſea as freſh waters) and alſo Serpents, that have hornes in divers and ſundrie ſorts. But to ſpeake a truth and properly, they be no hornes indeed, for thoſe pertaine onely to four-footed beaſts. As for *Actæon* and *Cippus*, of whom we read in our Latine hiſtorie, that they had hornes, I take them to be meere fables, and no bet- Hornes.

C ter. Certes, in nothing more hath Nature taken her pleaſure than in this: as if ſhee had meant to ſport and make her ſelfe merrie in theſe armes and weapons of beaſts. For in ſome ſhee hath made them knagged and braunched, as in Deere, both red and fallow; in others, plaine and uniforme, without tines, as in the Spitters, a kind of Stag, which thereupon bee called Subulones in Latine, for that their hornes be like a ſhomakers *Nall blade. There be againe which have broad hornes, and plated like a mans hand, with fingers ſtanding out of them, whereupon the beaſts that beare them be called Platycerotes, [i. broad horned.] Roe Buckes have by nature branched heads, but they are ſmall: and theſe doe not mew and caſt them yearely, as the Stag and Bucke. All the ſort of Rams be armed with crooked hornes, turning and winding with certaine revolutions, as if they were gantlets or whorlebats, given them by Nature to thumpe and jurre withall. Subulæ.

D Buls hornes be ſtreight and upright, readie alwaies to doe a miſcheefe. The females of this kind, to wit, Cowes, are horned as well as Buls: wheras in many others, the males only be in that wiſe armed. The wild Goats called Roch-goats have their hornes turning backward, whereas in fallow Deere they bend rather forward. There is a kind of Roe Bucke, called in Affricke Addace, which the Greekes have named Strepſiceros, and they have upright hornes: but they are furrowed and wreathed round about, as if they were ribbed like the backe of a Lute; or rather chamfered like the ridge of a land, and alwaies ſharpe pointed with a tip. Ye ſhall have droves and heards of beaſts, namely, Kine and Oxen in Phrygia, which will ſtir and wag their hornes like eares. And thoſe in the kingdome of the Troglodites, carie their hornes pendant directly to the ground, which is the cauſe, that as they eat, they are forced to beare their neckes awrie, and looke atone-

E ſide. Some have but one horne apeece, and that either in the mids of the forehead, as the Oryx; or elſe in the noſe, and muffle, as the Rhinoceros, wherof we have written before. In ſumme, there be that have ſtrong and hard hornes to butt with: others to ſtrike and gore withall: ſome crooking forward, others bending backward. In ſome, they are good onely to toſſe and fling, and that in diverſe manners. For there be of them that give backe, others turne one againſt another, and ſome even joine and meet together: but all run up ſharpe pointed in the end. A kind of beaſts there is, that uſe their hornes in ſtead of hands, to ſcratch their bodies when it itcheth: & others ſerve their turne to ſound the way before them, as certain ſhell-Snailes and Winkles. And theſe hornes given for this purpoſe, are ſome of them of a fleſhie ſubſtance, as thoſe of the Serpents called Ceraſtæ: and otherwhiles one alone without a fellow. As for the Periwinckles and Snailes

F aforeſaid, they are never without twaine a peece; and at this paſſe they have them, to put out and draw in as they liſt. In Buffles hornes, the barbarous people of the North parts uſe to drinke: and yee ſhall have the hornes of one Buffles head to hold full two meaſures, called Vrnæ, which is about eight gallons. In ſome countries men head their ſpeares and javelines with horne. With us in Italie they be cut into thin plates, and ſerve for lanternes: and ſurely they are ſo tranſparent and

cleare,

cleare, that they make the candle (within enclosed) to cast the greater light, and farther off. Nay, G
they are good for many other toies of delight and pleasure: insomuch, as some paint & die them
with sundrie colours, others vernish and anneile them: and yee shall have men to make thereof
their fine inlaid workes in Marquettrie of divers colours, called therupon Ceroſtrata. All hornes
in manner be hollow, save that as they grow toward the pointed tip, they bee solide and massie:
onely Deeres both red and fallow, are found and entier throughout: and every yeare they fall off.
Husbandmen in the countrey, when they see their Oxe hooses surbatted and worne too neere the
quicke with overmuch travell, annoint their hornes with sweet grease, and that is the way to make
them grow againe. And in very truth the hornes of these beasts are of so pliable a substance, and
easie to be wrought, that as they grow upon their heads, even whiles the beasts are living, they
may with boiling waxe bee bended and turned every way as a man will: yea, and if they bee cut H
when they breake new forth out of the skin, they may be easily writhed to grow severed in sundry
parts, so as every head may seeme to have foure hornes. For the most part, the hornes of Cowes
are more tender and thinner than the other: like as wee see it is in the females of smaller beasts.
*With us it is otherwise. Ewes have none at all: ne yet Hinds and Does: no more than the beasts that have feet cloven and
devided into many toes: or those that be whole hoosed, except the Indian Asse, who is armed
with one horne and no more. Beasts cloven footed in twaine, have likewise two hornes: but none
at all have they which are toothed in the upper mandible. They that make this reason, Because
the matter of their teeth runneth all into the horne, and so contrariwise; are deceived, and soone
convinced by this, That Hinds and Does are toothed no more than Stags and Bucks, and yet are
not horned. In other beasts the hornes grow to the very bone of the head, in Deere onely they I
come out of the skin, and are graffed no deeper. Fishes of all living creatures have the biggest
heads, for the proportion of their bodies: haply, because they might the better dive under water
and sinke to the bottome. No kind of Oisters have any head at all: no more than Spunges, or
any other in manner, which want all their sences but onely feeling. Some have heads indeed, but
within their bodie, and not devided apart from it, as Crabs and Creifishes.

Haire. Mankind of all living creatures hath most haire on the head, even men as much as women: as
we may see in those countries, where they never cut their haire, but let it grow. And namely in
Savoy, Dauphine, and Languedoc about the Alpes, where men and women both weare long
haire: and thereupon a part of France is called Comata. And yet this is not so generall, but that
the nature of some land and soile, may make some alteration and varietie. For the Myconians K
naturally have no haire at all: like as the Caunians be all subject to the disease of hard and swel-
ling Spleenes, even from their mothers wombe. Some reasonlesse creatures likewise are by na-
*Or rather Alpine. ture bald, as Ostriches, and certaine *water Ravens, which of the Greekes are named thereupon
Phalacro-coraces. Seldome doe women shed their haire cleane, and become bald: but never was
there any guelded man knowne to be bald: nor any others that be pure virgins, and have not sa-
crificed unto *Venus*. The haire growing beneath the ventricles of the brain, and under the crown
of the head, like as also about the temples and eares, falleth not off quite. Man alone of all crea-
tures, groweth to be bald: I speak not of those that are so by nature. Men, women, and horses, wax
gray haired: men and women both, begin at the fore-part of their heads to be grisslie, and after-
wards behind. Men and women alone are double crowned.

Braine-pan. Some creatures have the bones of their skull flat, plaine, thin, and without marrow: and the L
same united and joined together by certaine sutures or seames endented and toothed on either
sides, which run one into another. The ruptures and crackes of the braine-pan cannot be conso-
lidated and saudred perfectly againe: But if the spils and peeces be gently taken forth, and but
small, there is no daunger of death: for in their place there will grow a certaine callous cica-
trice, or fleshie substance, that will supplie in some sort that defect. Beares of all others have the
tendereſt skuls; and Parrots, the hardest; as we have said before in place convenient.

Braines. More over, all living creatures which have bloud, have likewise brains: yea, and those in the sea
which we call Soft-fishes, although they have no bloud at all, as namely, the Pour-cuttles or Po-
lypes. But man, for his bignesse and proportion hath the most braine of all other: and the same M
is the moistest and coldest part that he hath within his bodie. Enfolded it is within two tunicles or
kels, both above and beneath: whereof, if the one bee peirced and wounded, [to wit, *Pia mater*]
there is no way but present death. Also, men commonly have more braines than women. And
both of them have neither bloud nor veines therein: as for that, which is in other creatures, it

wanteth

A wanteth all kind of fat. The learned Anatomists, who have searched deepely into the nature of things, doe teach us a difference betweene the braine and marow of bones: for, brains in the boiling and seething, waxe hard. In the middest of the braine of all creatures there be certaine little *bones. Man alone in his infancie hath his braine to pant and beat: and fully settled it is not, nor confirmed, before that he begins to speake. Of all parts necessarie for life, it is placed highest, and next unto the cope of head and heaven both: without flesh, without bloud, without filth and ordure. And in truth, it is the fort and castle of all the fences: unto it all the veines from the heart doe tend: in it they all doe likewise end. It is the very highest keepe, watch-tower, and sentinell of the mind: it is the helme and rudder of intelligence and understanding. Moreover, in all creatures it lieth forward in the front of the head: and good reason, because all our fences bend that B way just before our faces. From our braine comes sleepe, from thence proceedeth our naps, our nods, our reeling, and staggering. And looke what creature so ever wanteth braine, the same sleepeth not. Stags (by report) have within their heads twentie little wormes, to wit, in the concavitie under their tongue, and about that joincture where the head is graffed to the chin-bone.

* *Offcula*, some read *Oscula*, holes.

Man alone hath not the power to shake his Eares. Of flaggie, long, and hanging eares, came the surnames first of the *Flacci* (families, and houses in Rome.) There is no one part of the bodie costeth our dames more than this, by reason of their precious stones and pendant pearles thereat. In the East countries, men also as well as women, thinke it a great grace and braverie to weare earings of gold. As touching their proportion, some creatures naturally have bigger or lesser C than others. Deere onely, the fallow as well as the red, have them slit and as it were devided. In Rats and Mice they be hairie. To conclude, no creature hath ears but those that bring forth their young alive: and none of them are without, save onely Scales, Dolphins, Vipers, and such fishes as wee called Cartilagineous and gristly. And these all in stead of eares, have certaine holes or conduits, except the foresaid gristly fishes, and the Dolphins: and yet manifest it is, that they do heare well ynough. For delighted they be with musicke: and upon some great noise and suddain cracke they are astonished, and then easily taken. But marvell it is how they should heare as they doe: neither can I comprehend the reason and meanes thereof, no more than I am able to shew how they doe smell? for no Organes and Instruments have they thereof to be seene, & yet there is not an hound upon the land senteth better, nor hath a finer nose than they. Of all foules, the D Like-owle and the Otus alone, have feathers like eares: the rest have only holes to heare by. And after the same manner skaled fishes and serpents. In Horses, Mules, and Asses, and all such as serve either packe or saddle, the eares are tokens of their courage more or lesse, and will shew what stomacke is within them. If they be tired and wearie, they hang downe flaggie: bee they afraid, you shall perceive them to wag too and fro: in heat of furie, they stand pricking up: in sicknesse they lie downe.

Eares.

Man only of all creatures hath a Face and Visage: the rest have either musles and snouts, or else bils and beakes.

Face or Visage.

Other creatures have Foreheads also as well as men: but in mans alone we may see and read sorrow and heavinesse, mirth and joy, clemencie and mildnesse, crueltie and severitie; and in one E word, guesse by it, whether one be of a good nature or no?

Forehead.

In the ascent or rising of the forehead, man hath Eie-brows set, like unto the eaves of an house; which he can moove as hee list, either both at ones, or one after another: and in them is shewed part of the mind within. By them we denie, by them we graunt. These shew most of all others, pride and arrogancie. Well may it be that pride doth appeare and settle in some other part, yet here is the seat & place of residence. True it is, that in the heart it beginneth, but hither it mounteth and ascendeth, here it resteth and remaineth. No part can it find in the whole bodie more eminent and hautie, and withall more steepe than the browes, wherein it might rule and raigne alone without controulment.

Eie-browes.

Next under the browes is the Eie, the most precious member of the whole bodie, which by *The Eie.* F the use of light maketh difference betweene life and death. Yet hath not Nature given eies to all creatures: Oisters have none: and for some other shell-fishes, it is hard to say whether they have any or none. As for Scallops, if a man stir his fingers against them as they lie gaping open, they will shut, as if they saw. And the shell-fishes called Solenes, give backe if any edge-toole come neare unto them. Of foure-footed creatures, Moldwarpes see not at all: a certaine shew and forme

forme they have of eies to be seene, if a man take off the skin that lieth over the place. Moreover among foules of the air, those of the Herons kind, which are called Leuci, for that they be white, want (by report) one eie. And for certaine, in case of Augurie, if these birds flie either into the South or North, it is holden for an excellent good presage, for they assure men that perill is past and promise securitie. *Nigidius* affirmeth, That neither Locusts nor yet Grashoppers have eies. As for Snailes and such like, the two little hornes that they put forth, serve them in stead of eies, as they sound or trie the way before them. The earth-mads and all the sort of wormes and grubs, are without eies. Men alone of all living creatures have eies of divers colours, some of one, and some of another. For all other creatures of one and the same kind, are eied alike. Howbeit, some horses there be that extraordinarily have *red eies. But in men it is hard to set downe the infinite varietie and difference in them: for some have great glaring eies: others againe as little and as pinking. Others also there be that have them of a moderate and reasonable bignesse. Some be goggle-eied, as if they would start out of their heads, and those are supposed to be dim-sighted: others be hollow eied, and they are thought to have the best and cleerest sight: like as they who for colour have Goats eien. Moreover, ye shall have some men, who can discerne a far off: others againe that see not but neere at hand. Many there are, whose eiesight dependeth of the Sunnes light: for let the day be overcast and cloudie, or the Sun gone downe, they see just nothing. And others contrariwise there be, that al the day time have but a bad sight: yet in the night season, they see better than any others. As concerning two bals or apples in one eie, as also who they be that can bewitch and hurt folke with their very eie, sufficient hath been said alreadie. *Gray eies commonly in the darke see more cleare than others. It is reported of *Tiberius Cæsar* the Emperour to have had this propertie by himselfe, that if he were awakened in the night, for a while he could see every thing as well as in the cleare day light; but soone after, by little and little, the darknesse would overcast and shaddow all againe: a gift that no man in the world was ever knowne to have but himselfe. *Augustus Cæsar* of famous memorie, had *red eies like to some horses: and indeed wall-eied he was, for the white thereof was much bigger than in other men: which also was the cause, that if a man looked earnestly upon him, and beheld them wistly (and a man could not anger him worse) he would be displeased, & highly offended. *Claudius Cæsar* had a fleshie substance about the corners of his eies, that tooke up a good part of the white, and many times they were very red and bloudshotten. *C. Caligula* the Emperour, his eies were ever set in his head, and stiffe againe. *Nero* had a very short sight; for unlesse he winked (as it were) and looked narrow with his eies, he could not well see ought, were it never so neare. Twentie couple of professed maisters of fence and sword-plaiers there were in the fense-schoole, that *C. Caligula* the Emperour maintained: & among the rest, two there were & no more, whom a man could not make to wink, or once to twinckle with their eies: present before them what weapon he would, or make offer to strike, so steadie and firme were they: and therefore they evermore caried the prize, and were invincible. So hard a matter is it for a man to keepe his eies from twiring. And many men naturally cannot chuse but be evermore winking and twinckling with their eies: but such are holden for fearefull and timorous persons. None have their eies all of one colour: for the ball or apple in the middest is ordinarily of another colour than the white about it. Neither in any one part of the bodie are more signes and tokens to be gathered of the affection and disposition of the heart, than in the Eie: of man especially above all other creatures. By it we may know whether one bee modest, staied, sober, gentle, mild, pittifull, or no. It sheweth mallice, hatred, love, heavinesse, sorrow, and joy. In the cast also of the Eie there is as much varietie: for some have a furious, cruell, terrible, fierce, sterne, and firie looke: others shew gravitie and constancie in their Eie. Some have an overthwart regard with them, others looke askew and awrie. One while a man lookes atone-side, and hath a wanton sheepes eie: another while he casteth his eie downe, and lookes heavily: and when hee lift againe, he can give one a pleasant and merrie looke. In breefe, the Eies are the verie seat and habitation of the mind and affection. For one while they bee ardent and fierie: otherwhiles they bee bent and fixed upon a thing: one time they twincke, another time they winke close and see nothing. From them proceed the teares of compassion: when we kisse the eie, wee thinke that wee touch the very heart and soule. From hence commeth our weeping: from hence gush out those streames of water that drench and run downe the cheekes. But what might this water and humour bee, that in hearts greese issueth in such plentie, and is so readie to flow? where may it lie at other times, when wee are in joy, in mirth, and repose? It cannot

Glauci. *Cæsij.* *Glauci.*

A cannot bee denied, That with the Soule we imagine, with the Mind we ſee, and the Eies as veſſels and inſtruments receiving from it that viſuall power and facultie, ſend it ſoon after abroad. Hereupon it commeth, that a deepe and intentive cogitation blindeth a man ſo, that hee ſeeth not; namely, when the ſight is retired farre inward. Thus it is, that in the Epilepſie or Falling-ſicknes, the eies are open and yet ſee nothing: for why? the mind within is darkened. Moreover, Hares have this qualitie, to ſleepe open eyed; and ſo doe many men beſides them: and this the Greeks doe expreſſe by the tearme κορυθαιολίαν. Nature hath framed and compounded the Eie, of many thin membranes or skins. As for thoſe tunicles withoutforth, they are tough and hard * like horne, to withſtand the injuries of heat and cold: and thoſe ſhee hath ordained eftſoones to be cleanſed and purified with the moiſture of teares; to the end that they ſhould be ſlipperie and
B mooveable, for to turne quickly and to ſhift from all that may offend. As for the middle part and membrane of the Eie, ſhe hath ſet it in a ball, like a window made of tranſparent horne [or rather of a grape:] the little compaſſe whereof containeth all the ſight of the Eye, and ſuffereth it not to wander and roll here and there, but directeth it as it were within a certaine pipe or ſmall conduit: by which meanes alſo (to note by the way) the apple being gathered into ſo narrow a circle, doth eaſily avoid all inconveniences that are incident unto it, for to annoy the ſame. This ball and point of the ſight is compaſſed alſo round about with other circles of ſundry colours, black, bleiſh, tawnie, ruſſet, and red; to the end that by this medley and temperate mixture of colors environed with the white beſides, the light might be let in and repreſented to the Opticke-ſinew: and alſo by a temperate reverberation and beating backe from thoſe other colours, it ſhould not
C dazle or offend the apple with the exceeding brightneſſe therof. In ſumme, this mirror or glaſſe-window, is ſo perfect and ſo artificially contrived, that as little as the ball of the ſight is, a man may ſee himſelfe full and whole in it. And this is the cauſe that many foules, from a mans fiſt are readie to pecke at the eyes above all other parts, for that they would gladly ſort and draw unto their owne repreſentation and image, which they ſee in the eies, as unto that which they naturally affect. Certain ſumpter-horſes and mules, and ſuch like beaſts of carriage onely, are troubled with ſore eyes, and diſeaſed that way at every chaunge and encreaſe of the moon. But man alone, in the catarrhact and ſuffuſion of the Eie, by voiding from it a certain humor which troubled the ſight, doth recover and ſee againe. There have been many known blind twentie years and more, and yet afterwards enjoyed the benefit of their eies. Some have been borne blind, without any
D fault or defect of their eies. Divers men likewiſe have ſodainly loſt their ſight by ſome ſecret accident, and no outward offence knowne to give occaſion thereof. Many right skilfull maſters in Chirurgerie, and the beſt learned Anatomiſts, are of opinion, That the veines of the eies reach to the braine. For mine owne part, I would rather thinke, that they paſſe into the ſtomacke. This is certain, I never knew a mans Eie pluckt out of his head, but he fell to vomiting upon it, & the ſtomack caſt up all within it. We that be citizens of Rome, have a ſacred and ſolemne manner and uſe among us, To cloſe up their Eies that lie a dying, and are giving up the ghoſt; and when they be brought to the funerall fire, to open them againe. The reaſon of this ceremonious cuſtome, is grounded hereupon, That as it is not meet for men alive to have the laſt view of a mans Eie in his death, ſo it is as great an offence to hide them from heaven, unto which this honour is
E due, & the body now preſented. Man alone is ſubject to the diſtortion & depraved motion of his Eies. Hereof are come the ſurnames of certaine families in Rome, *Strabones* and *Pæti*: for that the firſt of thoſe houſes were ſquint-eyed, and had rolling eies. Thoſe that were borne blinke but with one eye, our countrymen called *Coclites*: as alſo them that were pinke-eied and had verie ſmall eies, they tearmed *Ocellæ*. As for ſuch as came by thoſe infirmities by ſome injurie or miſchaunce, they were ſurnamed *Lucini*. Moreover, we ſee that thoſe creatures which ordinarily do ſee by night (as Cats doe) have ſuch ardent and fierie eyes, that a man cannot endure to looke full upon them. The eyes alſo of the Roe-bucke and the Wolfe are ſo bright, that they ſhine againe, and caſt a light from them. The Sea-calves or Seales, and the Hyenes, alter eftſoons their eies into a thouſand colours. Over and beſides, the eies of many fiſhes doe glitter in the night,
F when they be drie: like as the putrified and rotten wood of ſome old trunke of an oke or other wood. We have ſaid before, that thoſe winke not nor ſhut their eie-lids, who cannot roll their eies atone-ſide, but are faine to turne their whole head withall when they would ſee a thing that is not juſt before them. The Chamæleons (by report) roll their eies all whole every way as they liſt, up and downe, too and fro. Crabs looke awrie. And yet ſuch fiſhes as are encloſed within a brittle

brittle and tender ſhell, have their eies inflexible and ſtiffe. Lobſters and Shrimpes for the moſt G
part, have their eyes ſtanding out verie hard, albeit they be covered with the like ſhells. Thoſe that have hard eies, are not ſo well ſighted as thoſe that have moiſt. It is commonly ſaid, that if a man plucke the eies out of the heads of young ſerpents, or young Swallowes, they will have new againe in their place. All Inſects and other creatures that lie within hard ſhells, ſtirre their eies as four-footed beaſts doe their eares: but in thoſe that have tender ſhells, their eies be hard. And all ſuch, as alſo fiſhes and Inſects, have no lids to their eies, and therefore cover them not. But there be none without a thin membrane or pellicle over them, which is cleare and tranſparent like glaſſe.

Eye-lids. Men and women have haire growing on the brims of both Eie-lids: but women doe colour them every day with an ordinarie painting that they have: ſo curious are our dames and would H
ſo faine be faire and beautifull, that forſooth they muſt die their eies alſo. Nature ywis gave them theſe hairy eielids for another end, namely, for a palaiſade as it were and rampier of defence for the ſight, yea and to ſtand out like a bulwarke for to keepe off and put by all little creatures that might come againſt the eyes, or what things ſoever els ſhould chaunce to fall into them. Some write, That the haire of the eielids will ſhed and fall away, but not without ſome great injurie, and namely, in ſuch perſons as be overmuch given to leacherie. No other living creatures have theſe haires, but ſuch as otherwiſe be clad all over their bodies with haire or feathers. But, as foure-footed beaſts have them in the upper lid onely, ſo Foules have none but in the nether: like as thoſe ſerpents which are tender skinned and are foure-footed, as Lizards. The Oſtrich is the only foule which hath haire on the upper eye-lid. The Ape hath on them both as well as man. Moreover, all foules have not eie-lids, and therefore ſuch doe not winke, namely, thoſe that I
bring forth living creatures. The greater and heavier foules, when they would cloſe their eies, do it with drawing up the nether lid. The ſame alſo twinkle by means of a pellicle or skin comming from the corners of their eies. Doves and ſuch like birds winke with both eie-lids: but foure-footed beaſts that lay egs, as Tortoiſes and Crocodiles, uſe the nether lid onely, without any twinkling at all, becauſe their eies be very hard. The utmoſt compaſſe or edge of haire in the upper lid, the Latines called in old time *Cilium*, and therof came the name of the browes, to be *Supercilium* in Latine. This brim of the eie-lid, if it be divided by any wound, cannot be drawne together againe: like as ſome few parts beſides of mans bodie.

Balls of Cheeks Vnder the eies, are the balls of the Cheeks, which men and women only have; which in old time they called *Gena* in Latin. And by the law of the twelve Tables, women were expreſſely forbidden not to teare, rent, or ſcratch them in any caſe with their nailes. This is the ſeat of baſhfulneſſe and modeſtie: heare appeareth moſt of all the redneſſe of bluſhing. Vnder them, are the hollow pits of the cheekes, wherein mirth and laughter doe lodge and inhabit. K

Noſe-thrils. Man only hath his Noſe ſtanding forth aloft, which now adaies they dedicate to ſlie ſcoffing and deriſion, inſomuch as they attribute that tearme to dry mockers and flowters. And verily there is not a creature beſides, that hath his noſthrils ſo bearing out. [As for birds, ſerpents, and fiſhes, they have holes only to ſmell at, without any other noſtrils to be ſeen.] And hereof come the ſurnames of *Simones* and *Silones*, whereof the former have flat noſes, the other are hooked and camoiſe noſed upward. Infants have been known many times when they are ſeven moneths L
old, to want the holes and paſſages both of noſe and eares.

Lips. Then follow the Lips: ſome men there be that put them far out, by reaſon that they are gag-toothed or tut-mouthed, and thoſe are called *Brocci*. Others againe who are blabber-lipped, are named in Latine *Labcones*.

Mouth. As for the Mouth, all creatures have it that bring forth their young alive: and either it is gentle and pliable, or els hard and unruly; as we ſee horſes, that either willingly receive, or elſe refuſe the bit. By which alſo we give to men, the tearme either of modeſt and good countenance, or els of ſhameleſſe and untoward. But inſtead of mouth and lips both, Nature hath given to all foules

Bills. ſharpe Bills of an hornie ſubſtance: and as many of them as live upon ravin and prey, have them hooked inward: but ſuch as gather and pecke onely, they have ſtraight beakes. As for thoſe that M
either graſe, root, or pudder in mud, like to ſwine, they are broad and flat billed. As for horſes, mules, and ſuch like, they uſe their mouthes in ſtead of hands, to gather in their food as they either feed in paſture, or be at racke and manger. And the wider mouthes have they that live of killing and devouring other beaſts.

No

A No creatures living, but man and woman, have Chins and Iawes. The river Crocodile alone mooveth the upper chaw: the land Crocodiles chew as other creatures doe, but only bias. *Chin & Iaw.*

Of Teeth, there be three sorts: for either they be framed like sawes, or else set flat, even, and levell: or last of all, stand gabbing out of the mouth. The saw teeth run one betweene another, as if two combs grew togither, because they should not weare if they met one with another, as we see in serpents, fishes, and dogs. Horses and men have their teeth of one even-levell. The Bore, the water-Horse, and the Elephants, have their tuskes and fangs sticking forth. Of those teeth which are smooth and meet just one against another; such as divide and cut the meat, bee broad edged, as the fore-teeth: those that grind and chew, be double, and stand within the chaw: but such as sever and part the meat in the mouth, be sharpe pointed: and we call them our eie-teeth; *Teeth.*

B the Latines, *Caninos*, or Dog-teeth. And these are they, that of saw-teeth be the longest. Even and levell-raunged teeth, be either in both chawes alike, as in an horse; or els they be wanting before in the upper chaw, as in Kine, Buls, Oxen, Sheep, and all such as chew cud. Goats have none above but the two foreteeth. None have gabbed tusks standing forth of the mouth, whose teeth are fashioned like a saw. The females of them that have those fangs and tuskes, if haply they have the like (for seldome they are seene with such) make no offensive use of them at all: for whereas the Bores doe strike with them, the Sowes only doe but bite. No horned beast hath such tuskes: But all those have hollow teeth, whereas in all the rest, they be sound and solid. All fishes be toothed like sawes, save only the Guilt-head Scarus; for this only of all creatures living within the water, hath an even course of teeth. Furthermore, many fishes bee found to have their mouth,

C yea and their tongue, covered and beset all over with teeth: to the end, that by the meanes of many wounds (as it were) they might make soft their meat, which otherwise they could not possibly chew and teare. In many the teeth stand in the pallat and rouse of their mouth, yea and in their very taile. Moreover, some there be that have them crooking inwardly to the mouth, that the meat might not fall out againe: as having no other meanes to hold it in. Also, the Aspides and Serpents are likewise toothed, but they have above, both on the right side and the left, two teeth that be very long, and those are hollowed within after the manner of small pipes, like to the stings of Scorpions, by which they discharge their poison. The best writers who have searched most curiously into the secrets of Nature, doe hold, That the venome of Serpents is nought else but their gall; and that by certaine veines under their ridge bone, the same passeth along to the

D mouth. Some say, that a Serpent hath but one venomous tooth; which because it is crooked, therefore he turneth and bendeth it upright when he would sting or bite withall. Others affirme, that at such a time the same falleth out, and a new commeth up againe and groweth in the place: for easie it is to be driven or shaken out: and we see some of them handled and carried in mens bosoms, without that tooth. It is said moreover, that the Scorpions have the like tooth in their taile, and most of them three togither. Vipers teeth are covered and lie hidden within their gumbs. This serpent being full of poison, redoubleth her pricke, and at every bit letteth in poison into the wound. No flying foule hath teeth, save onely the Bat or winged-mouse. Of all creatures which beare no hornes, the Camell onely hath no foreteeth in the upper chaw. Such as be horned, have no saw-teeth. Snailes likewise have teeth: witnesse the leaves and tendrils of vines,

E which the very least of them all do gnaw and eat away. But for Sea-fishes, That those which live in shells, or be gristly, should have their foreteeth; and namely, that the sea-Vrchins five apeece; I cannot but wonder how men could come by the knowledge. Insects, in stead of teeth, have a sharpe prick to sting withall. Apes have teeth even as men. An Elephant hath foure teeth within to chew with, (besides those that stand out) which in the males turne and bend upward, but in the female they are streight, and shut directly downward. The fish also called Musculus Marinus, which goeth before the Whale or Whirlepoole as his guide, hath no teeth at all; but in stead thereof, his mouth all within, his tongue also and pallat, is rough againe with certaine bristles. The lesse foure-footed land-beasts, have the two fore-teeth of either side, longer than the rest. As for all other creatures, they bring their teeth with them into the world: man only is born

F without them, & at the seventh moneth they commonly breed. In all other creatures they continue still and stick fast; except men, Lions, Horses, Mules, Asses, Dogs, and such as chew cud, for these chaunge their teeth: but Lions and Dogs cast onely the eie-teeth, called *Canini* in Latine. The eie-tooth of a Wolfe (so it grow on the right side of the head) is thought to doe straunge matters. The great grinders which stand beyond the eye-teeth, in no creature whatsoever do fall

out of themſelves. As for the fartheſt cheek-teeth in a mans head, which be called *Genuini*, [*i.* the Wit-teeth] they come about the time that hee is twentie yeeres old; and in many at foureſcore yeeres of age. Sure it is, that thoſe teeth fall from women in their old age, and ſoone after come againe: ſuch women I meane, as had no children in their youth. And *Mutianus* hath reported, That he ſaw one *Zancles* a citizen of Samothrace, who had new teeth comming up after he was an hundred yeeres old and foure. Moreover, males ordinarily have more teeth than the females: as we may ſee in mankind, Sheepe, Goats, and Swine. *Timarchus* the ſonne of *Nicocles* the Paphian, had a double courſe of teeth in either jaw. He had a brother alſo who never caſt his fore-teeth, and therefore he wore them before, to the very ſtumps. Wee read in Chronicles of one man that had a tooth growing out of the very pallat of his mouth. As for the eye-teeth, if they be loſt by any miſchaunce, there never grow againe any other for them. In Horſes onely, of all other creatures, teeth waxe whiter by age: for in the reſt, they turne to be browne and reddiſh. The age of Horſes, Aſſes, and Mules, is known by a marke in the teeth: a horſe hath in all, fortie. At the end of thirtie moneths, he looſeth his fore-teeth of either chaw, as well above as beneath: the yeere following as many, even thoſe that be next, namely at what time as they put out thoſe which be called the cheeke-teeth. At the beginning of the fifth yeere, he looſeth other two, but there come up new in the place in the ſixth yeare. By the ſeventh yeare he hath all, as well thoſe that ſhould come in others place, as thoſe which are firme and never chaunge. A guelding never caſts his teeth, no not his ſucking teeth, in caſe he were guelded before. Aſſes in like manner begin to ſhed their teeth at the thirtieth moneth of their age; and ſo forward from ſixe moneths to ſixe moneths: and if they ſole not before they have ſhed their laſt teeth, they are for certein to be held barren. Kine and Oxen, when they be two yeares old, doe chaunge their teeth. Hogs or ſwine never have any teeth to fall. Now when as theſe markes are gone out, which ſhew the age of Horſes, Aſſes, and ſuch like, ye muſt (to know their age) goe by the overgrowth and ſtanding out of the teeth, the greyneſſe of the haire over their browes, and the hollow pits therabout: for then are they ſuppoſed to be ſixteen yeares of age. As touching men, ſome are thought to have venome and poiſon in their teeth: inſomuch as if they be ſhewed bare and naked againſt a cleare mirror or looking-glaſſe, they will dim the beautie thereof, yea and kill young pigeons whiles they be calow and unplumed. But foraſmuch as wee have ſpoken ſufficiently of Teeth, in our treatiſe as touching the generation of Man, we will paſſe over the reſt, and proceed unto other parts; ſave only that this is to be obſerved and noted, How children be ſicke when they are about breeding of teeth. And to conclude, of all other creatures, thoſe are moſt dangerous with their teeth, which have them framed like ſawes, and cloſing one betweene another.

The Tongue. Now as concerning Tongues, we obſerve much diverſitie in them: for all creatures are not tongued alike. Firſt and formoſt, Serpents have very thin tongues, and the ſame three-forked, blacke of colour, ſhaking, and readie to pierce; and if a man take them forth, very long. Lizards have tongues two-forked and full of haires: ſo have the Seales or Sea-calves a double tongue: but the tongues of theſe beforenamed, are as ſmall as haires: as for the reſt, their tongues ſerve them to licke their muffles and lips all about. Fiſhes have their tongues for the greater part thereof, cleaving faſt to their pallat; and in Crocodiles they are ſo, cleane throughout. But as well fiſhes as other creatures of the water, have a fleſhie palat, which ſerveth them in ſtead of a tongue to taſt withall. Lions, Libards, and all of that ſort, yea and Cats, have their tongues rough and uneven, made like a file with many ſmall edges lapping one over another: in ſuch ſort, as that with licking it will weare the skin of a man ſo thin, that their ſpittle and moiſture when it commeth neare unto the bloud and the quicke, will drive oftentimes into rage and madneſſe, thoſe whome they ſo licke, yea although otherwiſe they be made tame and gentle to come to hand. As touching the tongues of Purple fiſhes, wee have written alreadie. Frogs have their tongues in the forepart faſt to the mouth: the hinder part within toward their throat, is free and at libertie, wherby they keep that croking which we hear at one ſeaſon of the year; namely, when the males call unto the females for to engender; and then they be named Olalygones: for at that time they let downe their nether lip ſomwhat under the water, that they gargle with their tongue levell to the water, which they received into their throat: and ſo while their tongue quavereth withall, they make that croking noiſe aboveſaid. He that would looke then adviſedly upon them, ſhould ſee their ſpecks ſo ſwolne and ſtretched out full, that they will ſhine againe: hee ſhould perceive their eyes ardent and fiery with paines that they take thus with the water. Thoſe creatures that have

A have pricks and ſtings in their hin-parts, are furniſhed alſo with tongue and teeth. As for Bees, their tongue is very long; and the Graſhoppers put it forth a good way. They that have a fiſtulous ſting or pricke in their mouth, are provided neither of teeth nor tongue. In ſome Inſects, (as namely Piſmires) the tongue lieth cloſe within. Elephants, above all other beaſts, have a large and broad tongue. All creatures have their tongue looſe and at libertie at all times, each one in their kind: man only is oftentimes ſo tongue-tied, that needfull it is to cut certain ſtrings and veines for to eaſe it. *Metellus* the high prieſt and chiefe ſacrificer at Rome, had ſuch a ſtutting and ſtammering tongue (by report) that againſt he ſhould dedicate the temple of the goddeſſe *Opifera*, he laboured ſo with his tongue for utterance, for certaine moneths togither, and tooke ſuch paines, as if he had been upon the racke. All children, by that time that they be ſeven

B yeeres old at the fartheſt, ſpeake readily, ſo as they be not by ſome unnaturall cauſe empeached. But ſome men there be, which have their tongues ſo at commaundement, and ſo artificially they can handle it and their throat togither, that they are able to counterfeit the ſinging of all birds, and the voice of any other creature, that one cannot know and diſcerne them aſunder. As touching Taſt, which is the judgement of meats and drinks, to wit, What ſmacke and tallage they have? all other living creatures find it at the tip of their tongue only: but man taſteth as well with the pallat or rouſe of his mouth. The ſpongeous kernels, which in men be called Tonſillæ, or the Almands, are in Swine named the Glandules. That which betweene them hangeth downe from the inmoſt part and rouſe of the mouth, by the name of the Vvula, is to be found in man onely.

Vnder it, there is a little tongue (which the Greekes call Epiglottis) at the root of the other; *The flap Epiglottis.*

C and the ſame is not to be found in any creature that laieth egs. A twofold uſe it hath, lying as it doth betweene the two pipes. Whereof, that which beareth more outward, and is called The rough Arterie, or the Windpipe, reacheth unto the lungs and heart. And as a man doth eat and ſwallow downe his meat, this foreſaid little flap doth cover it, for feare leaſt as the ſpirit, breath, and voice paſſeth that way, the meat or drinke (if it ſhould goe wrong to the other conduit or paſſage) might endaunger a man and put him to great trouble. The other is more inward, called properly the Gullet, or the Wezand, by which we ſwallow downe both meat and drinke, and it goeth to the ſtomacke firſt, and ſo to the belly. This alſo the ſaid flap doth cover by turns, to wit, as a man doth either ſpeake or draw his breath, leaſt that which is alreadie paſſed into the ſtomacke, ſhould come up againe, or be caſt up unſeaſonably, and thereby empeach a man in

D his ſpeech. The Windpipe, conſiſteth of a griſtlie and fleſhie tunicle: the Wezand, of a membranous or ſinewie ſubſtance and fleſh togither. *The Windpipe, and Wezand pipe.*

There is no creature having a Necke indeed, but it hath alſo both theſe pipes. Well may they have a gorge or throat, in whome there is found but the gullet onely: but nape of necke behind, they can have none. As for thoſe upon whome Nature hath beſtowed a neck, they may with eaſe turne their head about too and fro every way, to looke about them, becauſe it is compoſed of many ſpondyles, or turning round bones, tied and faſtned one unto another by joints and knots. The Lion onely, togither with the Woolfe, and the Hyæna, have this neck bone of one entire and ſtraight peece, and therefore ſtiffe that it cannot turne. Otherwiſe it is annexed to the chine, and the chine to the loines. *The Necke.*

E This Chine likewiſe is a bonie ſubſtance, but made round and long, and fiſtulous within, to give paſſage to the marow of the backe, which deſcendeth from the braine. Learned men are of opinion, That this marow is of the ſame nature that the brain is: and they ground upon this experience, That if the thin and tender skinne that encloſeth it, be cut through, a man cannot poſſibly live, but dieth immediatly. All creatures that be long legged, have likewiſe in proportion as long neckes. So have alſo water-foules, although their legges be but ſhort. But contrariwiſe, yee ſhall not ſee any birds with long neckes, that have hooked tallons. Men onely and Swine, are troubled with the ſwelling bunch in their throats: which many times is occaſioned by corrupt water that they drinke. The upper part or top of the wezand, is called the Gorge, or the Gullet: the nether part or the extremitie thereof, is the Stomacke. There is another fleſhie

F concavitie of this name, under the windpipe, annexed to the chine-bone: long it is and wide, made in faſhion of a bottle, flagon, or rather a gourd. Thoſe that have no gullet, are alſo without a ſtomacke, a necke, and a wezand; as fiſhes: for their mouthes and bellies meet. The ſea-Tortoiſe hath neither tongue nor teeth: with the edge of his muffle (ſo ſharpe it is) hee is able wellenough to chew all his victuals. *The Chine-bone.*

The Stomack. Vnder the Arterie or Wind-pipe, is the mouth of the Stomacke; of a callous or gristly sub- G
stance, thicke toothed, with prickles in manner of a bramble, for the better dispatching of the meat: and these notches or plaits grow smaller and smaller, as they approch nearer to the bellie: so as the utmost roughnesse thereof in the end is like unto a smiths file.

The Heart. Now are we come to the Heart, which in all other living creatures is situate in the very middest of the breast: in man onely it lieth beneath the left pap, made in manner of a Peare, and with the pointed and smaller end beareth out forward. Fishes alone have it lying with the point upward, to the mouth. It is generally received and held, that it is the first principall part which is formed in the mothers wombe: next unto it the braine, and the eies last of all. And as these bee the first that die, so the Heart is last. In it (no doubt) is the most plentie of heat, which is the cause of life. Surely it ever moveth and panteth, like as it were another living creature by it selfe. Covered it is H
within-forth with a very soft, yet a strong tunicle, that enwrappeth it: defended it is besides with a strong mure of ribs, and the breast bone together: as being it selfe the principall fortresse and castle, which giveth life to all the rest. It containeth within it certain ventricles and hollow receits, as the cheese lodgings of the life, and bloud, which is the treasure of life. These in greater beasts are three in number: and none there is without twaine. This is the very seat of the mind & soule. From this fountaine there doe issue two great vessels, Maister-veines, or Arteries, which are divided into branches: and being spread as well to the fore-part as the backe parts of the bodie, into smaller veines, doe minister vitall bloud to all the members of the bodie. This is the only principall part of the bodie that cannot abide to be sick, or languish with any infirmitie: this lingereth not in continuall paine: no sooner is it offended, but death ensueth presently. When all other parts are corrupt and dead, the Heart alone continueth alive. All living creatures that have an I
hard and stiffe Heart, are supposed to be brutish: those that have small Hearts, be taken for hardie and valiant: contrariwise, they are reputed for timorous and fearfull, which have great Hearts. And the biggest Heart, in proportion of the bodie, have Mice, Hares, Asses, Deere, Panthers, Weasels, Hyænes; and in one word, all creatures either by nature fearefull, or upon feare hurtfull. In Paphlagonia, Partridges have two Hearts. In the Hearts of Horses, Kine, Buls, and Oxen, are otherwhiles bones found. The Heart in a man groweth yearely two drams in weight, untill he be fiftie yeares of age: and from that time forward it decreaseth from yeare to year as much: whereupon he is not able to live above one hundred yeares, for want of Heart: as the Ægyptians be of opinion; whose manner is to preserve the dead bodies of men spiced and embaulmed. It is reported of some men, that they have Hearts all hairie: & those are held to be exceeding strong K
*In three sundrie battailes. and valorous. Such was *Aristomenes* the Messenian, who slew with his owne hands *300 Lacedæmonians. Himselfe being sore wounded and taken prisoner, saved his owne life once, and made an escape out of the cave of a stone quarrie, where he was kept as in a prison: for he gat forth by narrow Foxe holes under the ground. Being caught a second time, whiles his keepers were fast asleepe, he rolled himselfe to the fire, bound as he was, and so without regard of his owne bodie, burnt in sunder the bonds wherewith he was tied. And at the third taking, the Lacedæmonians caused his breast to be cut and opened, because they would see what kind of Heart he had: and there they found it all overgrowne with haire. Moreover, this is observed in perusing the inwards of beasts, That when they be well liking, and do presage good, the Heart hath a kind of fat in the L
utmost tip thereof: Howbeit, this would be noted, That according to the Soothsaiers learning, their Heart is not alwaies taken for a part of the bowels or entrailes. For after the 123 Olympias, when *Pyrrhus* king of Epyrus was departed out of Italie, what time as *L. Posthumius Albinus* was king sacrificer at Rome, the Soothsaiers and Wisards began first to looke into the Heart, among other inwards. That very day when as *Cæsar* Dictatour went first abroad in his roiall purple robe, and tooke his seat in the golden chaire of estate, he killed two beasts for sacrifice, and in both of them the entrailes were found without any Heart: whereupon arose a great question and controversie among the Augures and Soothsaiers, How it could be, that any beast ordained for sacrifice should live without that principall part of life? or whether possibly it might loose it for that present onely? Over and besides, it is held for certaine, that if any die of the trembling and ach M
of the Heart, or otherwise of poyson, their Heart will not burne in the fire. And verily, an Oration there is extant of *Vitellius*, wherein he challengeth *Piso*, and chargeth him directly with poysoning of *Germanicus Cæsar*, upon this presumption: for he openly protested and prooved, That the heart of *Germanicus* would not consume in the funerall fire, by reason of poyson. But contrariwise,

A riwise, *Piso* alledged in his owne defence the foresaid disease of the Heart called Cardiaca, whereof as he said, *Germanicus* died.

Vnder the Heart lie the Lights, which is the very seat of breathing: whereby we draw and deliver our wind. For which purpose, spongeous it is and full of hollow pipes within. Few fishes as we said before, have any Lungs: other creatures also that lay egges, have but small, and the same full of froth, and without bloud: whereupon they be not thirstie at all: which is the cause likewise that Seales and Frogs can dive so long under the water. The Tortoise also, albeit hee have verie large Lungs, and the same under his shell, yet there is no bloud therin. And verily, the lesser that the Lungs be, the swifter is the bodie that hath them. The Chamæleons Lights be very big, for the proportion of his bodie, for little or nothing els hath he within it. *The Lights or Lungs.*

B Next followeth the Liver, which lieth on the right side. In that which is called the head of the Liver, much varietie and difference there is. For a little before the death of *Marcellus*, (who was slaine by *Annibal*) as he sacrificed, there was found a Liver in the beast, without that head or fibres aforesaid. And the next day after, when he killed another for sacrifice, it was seen with twain. When C. *Marius* sacrificed at Vtica, the same was likewise wanting in the beast, being opened. Semblably, when prince *C. Caligula* the Emperour sacrificed upon the first day of Ianuarie, at his entrance into the Consulship, the Liver head was missing: but see what followed! in that yeare his hap was to be slaine. Moreover, his successor *Claudius*, within a month before he died by poyson, met with the like accident in his sacrifice. But *Augustus Cæsar*, late Emperour of famous memorie, as he killed beasts for sacrifice, the very first day that he entred upon his imperiall dignitie, *The Liver.*

C found in sixe of them sixe Livers, which were all redoubled and folded inward, from the nethermost lobe or skirt beneath: whereupon answere was made by the Soothsaiers, that within one yeare he should double his power and authoritie. The foresaid head of the Liver, if it chance to be slit or cut, presageth some evill hap, unlesse it be in case of feare and pensivenesse: for then it betokeneth good issue, and an end of care and sorrow. About the mountaine Briletum and Tharne; also in Chersonesus neare unto Propontis, all the Hares ordinarily have two Livers: and (a wonderous thing it is to tell) if they bee brought into other countries, one of the said Livers they loose.

Fast to the Liver hangeth the Gall; yet all creatures have it not. And about Chalcis in Eu- *The Gall.*

boea, the sheepe are quite without Gall. But in Naxus they all have two Gals, and the same very

D big. The strangers that come into both those parts, think the one as prodigious and monstrous as the other. Horses, Mules, Asses, Deere both red and fallow, Roe-buckes, Swine, Cammels, and Dolphins, have no Gall. Some Mice and Rats there bee which have it. And few men there are without, howbeit, such are of a stronger constitution, more healthfull, and longer lived. Howbeit some are of opinion, That all Horses have Gall, not annexed to their Liver, but within their bellie: and as for the Deere aboveside, it lieth (as they thinke) either in their taile, or else their guts: which (by their saying) are so bitter, that Hounds and Dogs by their good wils would not touch them. Now this Gall is nothing els but an excrement purged from the worst bloud: and therfore bloud is taken to be the matter thereof. Certaine this is, that no creatures have Livers, but such as likewise have bloud. And in truth, the Liver receiveth bloud from the Heart, unto which it is

E adjoined, and so conveigheth and destributeth it into the veines. Blacke choller lying in the Liver causeth furie and madnesse in man: but if it be all cast up by vomit, it is present death. Hereupon it commeth, that we tearme furious and raging persons by the name of chollericke, or full of Gall: so great is the venome of this one part, if it reach once to the seat of the mind, and possesse it. Nay more than that: if it be spread and dispersed over all parts of the bodie, it infecteth it with the yellow jaundise, yea, and coloureth the very eies, as it were with Saffron. Let it out of the bladder or bag wherein it is, ye shall see it staine vessels of Brasse, yea, they will become blacke againe, and loose their brightnesse if they be touched therewith. No marvell then if the venome and poyson of Serpents, proceed from the Gall. They that use to feed of worme-wood growing in Pontus, commonly have no Gall. Ravens, Quailes, and Feasants, have their Gall joining to

F their kidneies, or rather to their guts, of one side and no more: and some to the guts only, as Pigeons, Hawkes, and Lampreies. Few birds there be that have Gall in the Liver. As for Serpents and Fishes, they have the greatest Gals of all others, for the proportion of their bodies. Most of them have their Gall along their guts throughout, in manner of the Hawke and the Kite. Moreover, in all Whale-fishes their Gall is fastened to the Liver: and so wee see it lieth in the Seales,

whose Gall is singular good for many purposes. Oxe Gall in limming giveth a golden colour: G
The Soothsaiers have dedicated it to *Neptune*, & the mightie power of Water. *Augustus* the emperour found two Gals in a beast that he killed for sacrifice, upon that very day whereon hee obtained that famous victorie at Actium. Some say, that the lobes or fibres in the small Livers of certaine Mice and Rats, are commonly found to be as many as the Moone is daies old in every month: and looke how many daies you reckon of her light, so many may you count the fibres aforesaid. Also, that their liver groweth at midwinter, when daies be at shortest. In the kingdomes of Grenada and Andalusia in Spaine, Connies are many times found with double Livers. The land Frogs of Toads kind, have one lop or lappet of the Liver, which Ants will not touch; because of the poyson therein, as is supposed. Liver of all things may be kept and preserved longest: and we read in Chronicles, that there have been found in some cities long besieged, Livers H
in salt or powder, which had continued a hundred years. Serpents and Lizards have long Livers. In that sacrifice which *Cæsina Volaterranus* killed, Dragons were seene to issue from among the Entrailes and the Liver; and this turned to be a luckie presage. And verily, why should we thinke this report or any other in sacrifices, to be incredible? considering, that upon the very day that king *Pyrrhus* was slaine, the heads of the beasts being slaine for sacrifice, (notwithstanding they were cut off from the bodies,) mooved forward upon the ground, and licked up their owne bloud.

The Midriffe. The upmost inwards of a man, to wit, the Heart and the Lungs, are devided from the other entrailes beneath, by certaine pellicles or rimmes of the Midriffe, which the Latines call Præcordia (because they are drawne and set before the Heart as a defence:) and the Greekes Phrenes. True it is, that Nature in great providence hath enclosed all the noble and principall parts I
within severall skins and coats of their owne, which might serve in stead of sheaths and cases for their better defence: but in this partition of the Midriffe, she had a more particular regard to the propinquitie of the Stomacke and Bellie, least that the vitall parts being so neare, should be oppressed and suffocated with the steames and vapors of the meat therein boiling. To this part are we beholden for our quicke wit, this membrane of the Midriffe we may thank for our readie conceit and understanding: to which effect, charged it is with no flesh, but composed of fine & subtile sinewes. The same likewise is the very especiall seat of mirth: as we may perceive evidently by tickling under our arme holes, unto which it reacheth: and as in no place of mans bodie the skin is more fine and tender, so it taketh as great pleasure to be tickled & lightly scratched there. And K
hereupon it is, that in solemne combates of sword-fencers at utterance with the sharpe, as also in field battels, we have many a time seene men wounded and thrust through the Midriffe, to die laughing.

The Bellie or Paunch, with the Guts. To proceed in our Anatomie, all creatures having a Stomack or Read, are not without a Bellie under it. As many as chew cud, have the same *double or two-fold, the rest one and no more: and looke who want bloud, are without it also. For some there be that have one entire gut, which beginneth at the mouth, and by a certaine way redoubleth and returneth backe againe thither, and namely, the Cuttill and the Polype. In man it is annexed to the bottome of the Stomacke, like as in a Dog. And in these twaine onely, narrower it is in the lower part: which is the cause, that none but they doe vomite: for when their bellies bee full, the streight passage beneath keepeth the meat from descending, and so it returneth upward: which cannot happen to them that have it wide and large, whereby the meat is sooner sent downe into the guts beneath. Next to the bag of the Stomacke, men and sheepe have the small guts called Lactes, through which the meat passeth: in others it is named Ile. Next unto which are the greater guts, that reach into the Paunch: and in man they are full of windings and turnings: which is the reason, that as many as have a great space betweene the Stomacke and the Paunch, are more hungrie and greedie of meat than others. And those who have the fattest and most greasiest bellies, most commonly are the grossest of capacitie and understanding. Some foules likewise have a two-fold receptacle for their meat: the one is the gizzer, craw, or gorge, wherein they bestow at the first their meat when they take it new: the other is the true Stomacke indeed; into which they send out of the former, M
the victuals alreadie altered, prepared, and in good forwardnes of concoction. And such be Hens and Pullein, Coists or Stock-doves, House-doves or Pigeons, and Partridges. All the rest in manner want the said gezzier, but in stead thereof have a wider gorge, wherethrough the meat passeth into the Stomacke, as Choughs, Ravens, and Crowes. Some againe there bee that

**Aristotle saith foure-fold.*

have

A have neither one nor other, but bee farre different from the reſt, and theſe have their bellie hard to their gorge: and eſpecially ſuch as have long neckes and narrow, as the bird Porphyrio. The paunch or belly of thoſe beaſts which are whole houfed, is hard & rough. And in land beaſts, it is in ſome thicke toothed, and ſet full of ſharpe prickes: in others it is framed rugged likewiſe, plaited croſſe in manner of lattice, readie to catch and bite whatſoever. Thoſe which have not teeth in both chawes, nor yet chew cud, do in this belly concoct and digeſt their victuals, and out of it they ſend the meat into the paunch where the guts lie. This member, in the middes, is in all creatures faſtened to the navill: and in man it is like unto that of a ſwine, having toward the neather part, a great gut named Colon: and this is it, which giveth occaſion to the intollerable paine of the colique. This Gut in dogs, is very ſtraight and narrow, whereupon they have
B much adoe to diſcharge it, and lightly they doe not skummer, but with great paine and difficultie. Thoſe creatures of all others be counted moſt unſatiable, whoſe meat paſſeth immediatly out of their belly into the ſtraight gut Longaon, or the Tiwill: as among foure-footed beaſts, the Woolfe, engendred betweene the Hind and a hee-Woolfe: and in foules, the Cormorant. An Elephant hath foure bellies or paunches: all other parts within, bee anſwerable to thoſe in Swine. Their lungs be foure times as big as thoſe in an Oxe. The gorge or craw, & the ſtomack or gizier in birds, is the thicke and fleſhie. In the maw or ſtomacke of Swallowes young birds, there be ſome certaine little white ſtones, or els of a reddiſh colour, called thereupon Chelidonij: and they be in great requeſt in Art-Magicke, namely for charmes and enchantments. Likewiſe in the ſecond belly or paunch of young Heifers, there is found a ſmall, blacke, and gravelly
C ſtone round as a ball, and light withall: a ſingular remedie (as it is thought) for women that have hard labour and be delivered with much paine and difficultie, ſo it bee taken before that ever it touch the ground. The Stomacke and the Guts, are kept within a fat and thin cawle, in all creatures but thoſe that lay egs. *The Cawle or Kell.*

Vnto this Cawle, is faſtned the Splene on the left ſide of the belly juſt over-againſt the liver. And otherwhiles theſe two ſhift their places, and one lieth where the other ſhould; but that is ever held as a prodigious token. Some are of opinion, that thoſe creatures which lay egs have a Splene, but it is very ſmall: as alſo the Serpents. And ſurely ſuch an one appeareth plainly in the Tortoiſe, Crocodile, Lizards, and Frogs. Certein it is, that the bird Ægocephalus hath none at all, no more than others that want bloud. This member hath a proprietie by it ſelfe ſometimes, *The Splene.*
D To hinder a mans running: whereupon profeſſed runners in the race that bee troubled with the ſplene, have a deviſe to burne and waſt it with an hot yron. And no marveile: for why? they ſay that the Splene may be taken out of the bodie by way of inciſion, and yet the creature live nevertheleſſe: but if it be man or woman that is thus cut for the Splene, hee or ſhee looſeth their laughing by the meanes. For ſure it is, that untemperate laughers have alwaies great Splenes. In Scepſis (a countrey of Aſia) the ſheepe have very ſmall Splenes, and from them were deviſed the remedies to cure the diſeaſe thereof, and to waſt their exceſſive greatneſſe.

But about Briletum and Tharne (the hils abovenamed) the Deere have four Kidnies apeece: whereas on the contrarie ſide, neither feathered foule nor skalie fiſh, have any. Moreover, the Kidnies ſticke cloſe unto the bones. The right kidney in all creatures is the bigger, leſſe fat, and *Kidnies.*
E dryer of the twaine: howbeit in both of them, there is a fat iſſueth out of the mids, ſave only in Seales. All living creatures are fatteſt about the raines of the backe: and ſheepe may be ſo farre overgrowne with fat, that they will die thereof. Sometime there be little ſtones found in them. All four-footed beaſts that bring forth their young quick, have Kidnies. And of ſuch as lay egs, the Tortoiſe alone, which alſo hath all other entrails. The Kidnies of a man, be like to thoſe of Kine and Oxen, as if they were compoſed of many togither.

Nature hath embarred the Breaſt-part (wherein lie the vitall members) with ribbes round about: but toward the belly (which needs muſt grow and ſtretch) ſhe hath not ſo done, but hath given it libertie: for no living creature hath bones to compaſſe the paunch. Mans Breaſt onely is broad and ſquare: in all others it is framed otherwiſe, like the keele of a ſhip: which is more *Breſt & Ribs.*
F evidently to be ſeene in birds and in water-foules moſt of all others. As for Ribs, man only hath eight that be full and whole: Swine have ten: horned beaſts thirteene: Serpents thirtie.

Vnder the belly and paunch in the fore-part of the bodie, hangeth the bladder: which no creature laying egs hath, ſave onely the Tortoiſe. It is found in none but ſuch as have a paire of lungs, and the ſame with bloud: neither in any creeping creature without feet. Betweene it and *The Bladder.*

the

the belly be certaine canals or arteries, reaching to the groine, which by the Greeks are named *Ilia*. [*i.* the Flankes.] In the bladder of a Wolfe, is found a little ſtone called Syrites. But in ſome mens bladders, ye ſhall ſee otherwhiles certaine groſſe haires to engender, like to briſtles; alſo gravell and ſtones, which put them to intollerable paine. This bladder conſiſteth of a certain tunicle or skin, which if it be once wounded, cannot be againe conſolidated; no more than thoſe fine pellicles or rinds that enwrap the braine and the heart. For you muſt thinke, that there bee many ſorts of theſe membranes or filmes ſerving to ſundry uſes. G

The Matrice. As for women, their inward parts are anſwerable to mens in all theſe reſpects aboveſaid: and beſides, they have by themſelves adjoyning cloſe unto the bladder, another little bag or purſe; whereupon it is called in Latine *Uterus*: and it hath another name beſide, to wit, *Loci*; which we call the Matrice, the Mother, or the Wombe: and in other creatures it is tearmed *Vulva*. In Vipers, and ſuch as hatch their egs, within them it is double. In thoſe that lay egges, it lyeth faſt to the Midriffe. In women, it hath of either ſide two chambers or concavities. If at any time it chance to be perverted and turned the wrong way, or take aire into it, it is deadly, and riſeth up to ſtop the wind. If Kine be with Calfe, men ſay, that they carie not their yong but in the right cell or receptacle thereof, yea, although they go with two Calves at once. Our fine-toothed gluttons doe find a better taſt in a Sowes wombe that ſlippeth and caſteth her Pigs and it together, or is cut out of her bellie, than if the dam bringeth foorth her fruit at the full time. The one forſooth is called Ejecticia, the other Porcaria. And the beſt is that of a young Sow that never farrowed before: and contrariwiſe, of old Sows and ſuch as have given over to farrow. After ſhe hath pigged, unleſſe ſhe be killed the ſame day, the ſame hath a dead colour, and is but leane. And yet that of a young Swine is not greatly commended, unleſſe it be of her firſt Pigs. Howbeit, thoſe of old Sowes alſo be in requeſt, ſo they have not given over breeding: and namely, if they be taken either within two daies before they ſhould pig, or within two daies after they have pigged, or at leaſtwiſe, the very ſame day. The next to the caſt-wombe aboveſaid, is that of a Sow killed a day after ſhe hath pigged. The paps and teats of ſuch a Sow, newly having farrowed, is counted excellent good meat, ſo that it be taken before that ever the Pigs ſucked them drie: but thoſe of a Sow which hath caſt her Pigs before time, is held for the worſt of all. In old time they called this morcell in Latine *Abdomen*, and before it was growne hard and brawnie, they never were wont willingly and wittingly to kill Sowes, * even upon the point of their farrowing, and being readie to Pig [as our monſtrous gluttons doe now adaies, becauſe they would have the teats ſoft, tender, and full of milke.] H I *Incientes.* K

Tallow and Greaſe. All horned beaſts having teeth growing but in one jaw, and paſterne bones about their feet, doe beare tallow or ſewet, and feed fat. Thoſe that be cloven-footed, or otherwiſe have feet devided into many toes, and beare no hornes; have no tallow, but greaſe or fat. The tallow or ſewet groweth to be hard, and when it is throughly cold, is brittle and apt to crumble and breake; and is ever found in the edge and extremities of the fleſh: contrariwiſe, the ſeame or greaſe is enterlarded betweene the fleſh and the skin; liquid it is, and eaſie to melt. Some creatures there bee that will never be fat, as the Hare and Partridge. Generally, whatſoever is barren, bee it male or female, will ſoon feed fat. Sooner grow they to be old which are overfat. No living creatures there are but have a certaine fat in their eies. And the tallow in any thing whatſoever, is ſenceleſſe: for neither hath it Arteries nor Veines. The fat alſo & greaſe in moſt of them, is without ſence: And hereupon it is, That ſome affirme, how Mice and Rats have gnawne and eaten fat Hogs whiles they were alive, and made them neſts in their backes: yea, and *Lucius Apronius* ſometimes Conſull, had a ſonne ſo fat that he could not goe, ſo heavie was he loden with greaſe; inſomuch, as he was faine to take ſome of his greaſe foorth of the bodie, and ſo diſcharge himſelfe and become lighter. L

Marrow. Marrow ſeemeth to be much of the ſame nature: in youth it is red, and in age waxeth white. This is never found but in hollow bones: and yet not in the legs of Horſe, Aſſe, Mule, or Dog. And therefore if they chance to be broken, they will not ſowder and unite againe; which happeneth when the Marrow runneth out to the place of the fracture. In thoſe that carie greaſe or ſewet, fattie it is and greaſie: but in horned beaſts it reſembleth Tallow. Sinewie it is, and that onely in the ridge of the backe of as many as have no bones, as namely, in all fiſhes. Beares have none at all. A Lion likewiſe hath but very little, to wit, in ſome few bones of his thighes and buts behind, and alſo of his legs before under his ſhoulders. For his other bones are ſo hard, that they will M

ſtrike

A strike fire, as it were an hard flint. The Marrow is hard in them that gather no grease, but rather tallow.

Bones and Gristles.

The bones of Asse legs are good to sound shrill, and to make pipes of. Dolphins have verie bones, and not prickie chines: for they bring foorth their young alive. Serpents have onely prickie ridges. Fishes that be soft have no bones: but their bodie is bound with certaine hoopes or circles of flesh, as the Cuttill and the Calamarie. Neither have Insects any bones at all. Those fishes which be not soft, but gristly, have a kind of marrow in their ridge bone. Seales have gristle, and no bone. The eares and nosethrils of all creatures, if they beare up but a little, have a soft tender gristle apt to bend and wind: such is the goodnesse of Nature, providing that they should not breake. A gristle if it be broken, will not close together and be sound. Neither will bones, if
B ought be cut from them, grow again: unlesse it be in horses and such beasts of cariage, and namely, betweene the house and the pasternes.

Growth.

A man Groweth in heigth and length untill he be one and twentie yeares of age: then beginneth he to spread and burnish in squareneſſe. As well men as women-kind, shute up most and undoe the knot that hindered their growth, when they are come to fourteene yeares of age, and be undergrowne: and most is this seene, if some sickneſſe happen about that time.

Sinews, Cords, & Ligaments.

As for the Sinewes, Ligaments, and Cords, which take their beginning at the heart, be covered (as it were) with a certaine white and glutinous substance; and the like cause and nature they
C have. These in all bodies, are tied to the slipperie bones: the knittings of the bones together, which be called joints, they fasten and bind together, some by comming betweene, others by clasping round about, and others againe, by passing crosse over: in one place they bee twined round, in another broad, according as the figure of each part doth require. Be they cut atwo, as they cannot knit againe, so they put a man to no paine: pricke or wound them, a wonder to see, what extremitie of paine will thereupon ensue. Some creatures be without nerves and sinewes, as namely fishes, for they stand much upon Arteries: and yet ye shall have neither the one nor the other in soft fishes. Look where there be Sinewes, Cords, and Ligaments, those that lie more inward and underneath, stretch out the part and give libertie: wheras the uppermost that lie over them, draw the same in as much.

Veines and Arteries.

Among these are hidden the Arteries, that is to say, the passages of the spirit and life. And over them ride the Veines, even the very conduits and channels that carie the bloud. The Pulse
D or beating of Arteries, is most evident in the extremities or ends of any members; and for the most part bewraieth hidden diseases. *Herophilus* that renowmed Poet and interpreter of Physick, hath with marvellous skill reduced the order thereof into an art: he hath set downe most artificially, the certaine measures and times, the compasse, the metricall lawes thereof, according to every age: when they strike even and steadie, when too fast, when too slow. But the skill hereof is little exercised, and his invention in that behalfe neglected: because it seemed overwittie, subtile, and curious. Howbeit, the observation of the strokes, either comming thicke and fast, or slow and softly, giveth a great light to judge of the strength of Nature, that governeth our life. Arteries want sence, and no marvell, for they be without bloud. Neither doe they all containe within them vitall spirit. For there have beene knowne some of them cut in twaine, and yet that part of
E the bodie only is mortified, which received the offence. Birds have neither Veines nor Arteries. Likewise, Serpents, Tortoises, and Lizards, have but very little bloud. The Veines dispersed at the last into most fine and small threadie fibres under all the skin, grow at the length to be so slender that the bloud cannot possibly passe through them, nor any thing else: save a thin humour or moisture, which through infinite small pores of the skin doth breath forth, and standeth there like a dew, and is called Sweat. The place where all the Veines doe meet in a round knot together, is the Navell.

Chap. XXXVIII.

F *Of Bloud, as well that which soonest waxeth drie, as that which will not thicken at all. Also, which is the grossest bloud, and heaviest, which the lightest and thinnest: and last of all, what creatures living have no bloud at all.*

THose that have much bloud, and the same fat and grosse, are angrie and chollericke. The bloud of males is commonly blacker than that of females: yea, and more in youth than in old

old age: and the ſame in the bottome and lower part, ſettleth fatter and groſſer than above. In bloud conſiſteth a great portion and treaſure of life. When it is let out, it carieth with it much vitall ſpirit: howbeit, ſenceleſſe it is, and hath no feeling. The ſtrongeſt creatures be they which have the thickeſt bloud: but the wiſeſt, thoſe that have thinneſt: the more fearefull, that have leaſt: but dull and blockiſh altogether which have none at all. Buls bloud of all others ſooneſt congealeth and waxeth hard, and therefore poyſon it is, to be drunke eſpecially. The bloud of Bores, red and fallow Deere, Roe-buckes, and all Buffles, will not thicken. Aſſes bloud is moſt fattie and groſſe: and contrarily, mans bloud is thinneſt and fineſt. Thoſe beaſts which have more than foure feet, are bloudleſſe. Thoſe that be fat have ſmall ſtore of bloud, becauſe it is ſpent in fatneſſe. Man onely bleedeth at the noſe: ſome at one noſthrill alone, others at both: and ſome againe void bloud downeward by the Hæmorrhoids. Many there be that caſt up bloud at certaine times ordinarie, by the mouth: as not long ſince *Marcius Victus*, late Pretor of Rome: and uſually every yeare *Voluſius Saturninus*, Provoſt of the citie; who notwithſtanding lived untill he was above foureſcore and ten yeares of age. Bloud is the onely thing in the bodie that encreaſeth preſently. For ſo we ſee, that beaſts killed for ſacrifice will bleed moſt freſhly and in greater abundance, if they dranke a little before. Thoſe creatures that lie hidden in the earth at certain times, (as we have ſaid before) have no bloud in all that while; unleſſe it bee ſome few, and thoſe verie ſmall drops gathered about their hearts. A wonderfull worke of Nature, that it ſhould be ſo: as alſo, that in a man it ſhould alter and change ever and anon, ſo as it doth upon every ſmall occaſion: and the force and ſtrength thereof varie, not only for defect and want of matter to diſperſe abroad, but alſo for every little motion and paſſion of the mind, as ſhame, anger, and feare. For one while it ſheweth pale, another whiles red, more or leſſe, in much varietie of degrees. In caſe of anger it wil ſhew one colour: of ſhame and baſhfulneſſe appearing in another. In fear, doubtleſſe it retireth and flieth back, in ſuch ſort, as a man knoweth not what is become of it: ſo as many in that fit have ben ſtabbed and run through, and yet bled not at all one drop: but this ſuddaine change of colour happeneth to men onely. For in other creatures, which (as we have ſaid) doe alter their hue, it is an outward colour that they take from the reflection of certaine places neare unto them, man alone hath this change from within himſelfe. To conclude, all maladies, and death eſpecially, conſume the bloud.

Chap. xxxix.

Whether in Bloud reſteth the ſoveraignetie or no? Alſo of the nature of Skin, of Haires, and the Paps.

Some meaſure not the fineneſſe of ſpirit and wit by the puritie of bloud: but ſuppoſe that creatures are brutiſh, more or leſſe, according as their Skin is, thicker or thinner: and as the other covertures of their bodie be either groſſe and hard, or thin and tender: as we ſee for example in Oiſters and Tortoiſes. They affirme moreover, that the thick hide in Kine and Oxen, and the hard briſtles in Swine, impeach the entrance of ſubtile aire and fine ſpirit into their bodies: in ſuch wiſe, that nothing can pierce and paſſe through, which is pure and fine, as it ſhould be. And here to they bring men alſo, as a proofe, who are thicke skinned, and more brawnie; for to be more groſſe of ſence and underſtanding: as who would ſay, that Crocodiles were not verie wittie and induſtrious, and yet their skin is hard ynough. And as for the River-horſe, his hide is ſo thicke, that thereof javelines and ſpeares are turned: and yet ſo induſtrious is that beaſt, that in ſome caſe he is his owne Phyſician, and he hath taught us to open a veine, and let bloud. The Elephants skin is ſo tough and hard, that thereof be made targuets and ſhields, of ſo good proofe, that it is impoſſible to pierce them through: and yet they are thought to be of all foure-footed beaſts, moſt ingenious and wittie. Wherefore, conclude wee may, that the skin it ſelfe is ſenceleſſe, and hath no fellowſhip at all with the underſtanding: and eſpecially that of the head; and whereſoever it is of it ſelfe naked and without fleſh, be ſure (if it be wounded) impoſſible it is to conſolidate the wound, and namely, in the eie-lids and the bals of the cheekes. All creatures that bring forth their young quicke, are hairie: thoſe that lay egs, have either feathers, as birds: skales, as fiſhes: or elſe bee covered with ſhels, as Tortoiſes: or laſt of all, have a plaine skin and no more, as Serpents. The quils of all feathers bee hollow. Cut them, they will grow no more: plucke them, they will come againe. Inſects flie with thin and brittle pellicles or membranes.

The

A The sea Swallowes have them evermore moist and drenched in the sea. As for the Bat, he is afraid to wet them, and therefore flieth about houses, & his wings besides are divided into joints. The haires that grow forth of a thick skin, are commonly hard and grosse: but evermore thinner and finer in the females. In Horses and Mares they grow at length upon their maines. Lions also have them long about their shoulders and foreparts. Connies have long haires about their cheekes, yea, and within-forth: as also in the soles of their feet: and so hath the Hares, according to the opinion of *Trogus*: who thereby collecteth, that hairie men likewise are more letcherous than others. The hairiest creature of all other is the Hare. In mankind only there groweth haire about the privie parts: & whosoever wanteth it, man or woman, is holden for barren, & not apt for generation. Haires in men and women are not all of one sort: for some they bring with them into the
B world, others come up & grow afterwards. Those that they have from their mothers wombe, do not lightly fall and shed, & least of all in women. Yet shall ye have some women to shed the hairs of the head by occasion of sicklinesse: as also other women to have a kind of downe upon their face; and namely, when their monethly fleures doe stay upon them. In some men, the latter kind of haires, to wit, of the beard, &c. will not come of their owne accord, without the helpe of Art. Foure-footed beasts doe shed their haire yeerely, and have it grow againe. Mens haire of their heads, groweth most: and next to it, that of their beards. If the haire be cut, it groweth not again at the cut end, but springeth from the root. It groweth apace in some sicknesses, and most of all in the consumption of the lungs, and in old age, yea and upon the bodies of the dead. In leacherous persons, the haire of their head, browes, and eye-lids, with which they came into the
C world, doe fall more early than in others: but those that spring afterwards, grow sooner againe, if they be cut or shaven. The wooll and haire that foure-footed beasts doe beare, is more course and thick by age, but it commeth not in such plentie as before. And such have alwaies their back well covered with haire and wooll, but their bellies bare. Of Kine and Oxe hides sodden, there is made glew: but the Bulls hide hath no fellow for that purpose. Man only of all males, hath evident paps in his breasts: other creatures have little nipples onely in shew of teats. Neither have all females teats in their breast, but only such as are able to suckle their young. None that lay egs have paps: nor any have milke unlesse they bring forth their young living: and yet of all foules I must except the Bat alone. As for the illfavoured Scritchowles, called Stryges, I thinke they be but tales that goe of them: namely, That they will give milke out of their breasts to young in-
D fants. True it is, all men agree in this, That the manner was in old time, to use in cursing and execration, the tearme of Strix, but what bird it should be, I suppose no man yet knoweth.

Chap. xl.

Notable observations in living creatures, as touching their Paps.

SHee Asses are much pained with the ach of their Vdders, when they have foled: and therefore after sixe moneths, they will not give them any more sucke: whereas mares doe suckle their colts a whole yeare almost. Those beasts which be whole housed, and have not above two young at once, have all of them two Paps and no more, and those in no other place els, but
E betweene their hinder legges. Such as be cloven-footed, and horned likewise, have them in that place: but Kine have foure teats, Ewes and Goats but two apeece. Such beasts as be very fruitfull and bring many young, and likewise whose feet be parted into toes, these have many nipples or teat-heads all along their belly, disposed and set in a double course; as namely, Sowes: of which, those of the better kind have twelve; the common sort, but ten. Also Bitches after the same manner. Some beasts have foure teats in the mids of their belly, as the Panthers: some twaine and no more, as the Lioness. The Elephant alone hath twaine under his shoulders or legs before, and those not evident in the breast-part, but short therof and lying hidden as it were within the arme-pits. And generally, none that have their feet divided into toes, have Vdders behind under their hin-legs. A Sow, at every farrow, giveth the foremost nipples to those pigs that
F come first, and so in order as they be farrowed: and those teats be they that are next to her throat and highest. Every pig knoweth the own pap, and will take it & no other, when it commeth first into the world; and thereof it is nourished. If a pig be taken from the Sow, the milke of that pap will drie up presently, or returne backe, and the pap it selfe fall flat to the belly. Also if it chance that but one sucking pig be left, that pap alone will do the part and let downe milke, which Nature

ture first appointed for that one pig. Shee Beares have foure paps apeece. Dolphins have no more but two teats and nipples in the bottome of their belly, and those not very apparent to the eye, nor streight and direct, but lying somewhat aside and byas: and no beast besides giveth sucke as it runneth, but shee. To conclude, Whales, Whirlepooles, and Seales, nourish their young with their udder and teats. G

Chap. xli.

Of Milke: and of what milke cheese cannot be made.

THe Milke that commeth from a woman, before that shee hath gone seven moneths with child, is not good: but from that time forward, it is holesome, because the infant may live and doe well after that tearme. Many are so frim and free of milke, that all their breasts are strut and full thereof, even as farre as to their arme-holes. Camels give milke untill they be great with young againe: and their milke is thought to be most sweet and pleasant in tast, if to one measure thereof you put three of water. A Cow hath no milke ordinarily, before that shee hath calved. The first milke that she giveth downe, is called Beestins: which, unlesse it be delaied with some water, will soone turne to be as hard as a Pumish stone. Shee Asses are not so soone with young, but they have milke in their udders: But if they go in good and battle pasture, it is not good that their young foles should sucke their milke in two daies after; for the very tast thereof, is enough to kill them: and this disease that commeth of such Beestins, is called Colostratio. The milke that those give which have teeth in both chawes, is not good to make cheese of, because it will not cruddle. Camels milke, of all others, is thinnest; and Mares milke next to it. Asses milke is holden for to be thickest, and therfore they use it in stead of renning, to turn milke and gather curds thereof. It is thought also to be very good for to make womens skin faire and white. Certes the Empresse *Poppæa*, wife to *Domitius Nero*, had alwaies whersoever she went, five hundred shee Asses milch, in her traine: and in their milke she bathed and washed her whole bodie, as in an ordinarie baine, supposing that thereby her skin was not onely whiter, but also more neat, smooth, and void of rivels. All sorts of milke will thicken by fire, and turne into whey with cold. Cowes milke maketh more cheese than Goats milke, by twice as much almost, although you take no more of the one than the other. The milke of those that have above foure paps, is naught for cheese, but theirs is better that have but twaine. The rennet of an Hind-calfe, a Leveret, and a Kid, is much commended. But especially of a Leveret or Rabbet, which also is medicinable for the fluxe of the bellie: a thing to be observed in them alone, of all creatures that are toothed in both chawes. A wonder it is, that barbarous nations living of milke, have for so many hundred yeeres either not known, or els not regarded, the benefit of cheese: and yet they used to thicken their milke into a kind of pleasant soure-crud, in manner of a Sellibub: and to charn butter thereof: which is the very scum and creame of milke, much thicker than that which is called Whey. To conclude, I may not let passe, That Butter hath the vertue and properties of oile: insomuch, as forraine and barbarous nations, doe annoint their children therewith, as wee also doe ours. H I K

Chap. xlii. L

Cheeses of sundrie sorts.

AT Rome (the onely place that hath best meanes neare at hand, to judge of the fruits and commodities of all nations in the world) the Cheeses which come out of the provinces of Nemausium, and from the villages of Læso and Baux, are highly praised for the best; but they last not long: their commendation is for the present season, whiles they be greene and new. There are brought good Cheeses from two coasts of the Alpes, which greatly praise the pasture thereabout. Also, daintie cheeses are made in Dalmatia, from whence we have passing good; and namely, from Drinaldi. Moreover, the province of Ceutronia sendeth us excellent cheese from Vatusium. But the great store and plentie of cheese commeth from the Apennine mountain: which yeeldeth us the Cebane cheese out of Liguria; and that is very fine meat, notwithstanding it be made most of Ewes milke. Also out of Vmbria we have good cheese, from the dairies along the river Æsio. Howbeit in the confines betweene Tuscane and Liguria, the monstrous great cheeses are made, and namely about Luca, for one of them weigheth a thousand M

pounds.

A pounds. Next to these in goodnes, be those that are made neere unto the citie of Rome about Vestinum: but from out of the Sæditian territorie and the plains thereabout, there come cheese that passe all the rest. As for cheeses made of Goats milke, they are not to be defrauded of their due praise, especially when they are fresh and new made; and if besides, they may have a little drinesse in smoke, which giveth both a good lustre & also a pretie tast unto them: for such cheeses be made within the very citie of Rome, and goe beyond all others. As for the cheeses made in Fraunce, they tast like a medicine, and have an aromaticall rellish with them. For outlandish cheeses beyond sea, the Bithynian carry the best name. That there is a certain tartar or salt, (if by nothing els) may well be knowne by the tast of the cheese made thereof: for there is none but the older they are, the more saltish they bee: and yet such are well knowne to recover their fresh tast againe, if they bee soked in thyme-vinegre. Some report, that *Zoroastres* lived in the
B desert wildernes twentie yeeres with cheese: the which was so well tempered, that it seemed nothing old, for neither it moulded, nor yet bred vermin.

Chap. xliii.

The difference betweene the members of Man and other creatures.

OF living creatures upon the land, Man alone is two-footed. He only hath a cannell bone and shoulders; armes also to embrace: whereas others have shoulders onely and fore-legs to rest upon. In all creatures that have hands, they be fleshie withinforth onely: for
C the back-part consisteth of skin and sinewes. Some men there be, with six fingers to one hand. We have heard, that *M. Curiatius*, a nobleman of Rome, had two daughters so handed: whereupon they were surnamed *Sedigitæ*. Also there was a man named *Volcatius*, who was an excellent Poet, and had six fingers to an hand, whereupon he was surnamed *Sedigitus*. Every finger of a mans hand hath three joints; the thumb twaine, and it bendeth and boweth full opposite to all the rest of the fingers: and yet by it selfe he stretcheth awrie from the others, and is thicker than the rest of the fingers. The little finger is equall in length to the thumbe: the fore-finger and the fifth (or ring-finger) are just of one size: betweene which, the middle finger is the longest. Those foure-footed beasts that live of ravine and prey, have five toes in their fore-feet, whereas others have but foure. Lions, Wolves, and Dogs, and some few others, have likewise five toes or pawes
D in their hin-feet, and one like a spurre, which beareth foorth behind and hangeth downe from the pasterne-bone of the foot. All other smaller beasts have five to a foot. The armes of all men be not of a just and even measure: for it is well knowne, That there was a Thracian sword-fencer named *Studiosus*, belonging to the fence-schoole of *C. Caligula* the Emperor, whose right arme was longer than the left. Certain beasts without reason, use the ministerie of their fore-feet in stead of hands, and as they sit upon their rumpe, reach meat therewith to their mouth; as the Squirrils.

Chap. xliiii.

The resemblance that Apes have to men.

E AS for all the race and kind of Apes, they resemble the proportion of men perfitly in the face, nose, eares, and ey-lids: which eye-lids, these creatures alone (of all foure-footed) have under their eyes as well as above: nay, they have paps and nipples in their breasts, as women: armes also and legs bending contrary wayes, even as ours do. Nailes they have likewise and fingers like to us; with the middle finger longer than the rest, as ours be. A little they differ from us in the feet: for somwhat long they are, like as their hands be: and the sole of their foot is answerable to the palme of their hand. Thumbs and great toes they have moreover, with joints like (in all the world) to a man. And setting aside the member of generation, and that only in the hee Ape, all inward parts are the very same that ours, as if they were made just by one patterne.

Chap. xlv.

F

Of Nailes.

NAiles are taken and reputed for the extremities and utmost ends of the sinewes: and yee shall find them in as many as have fingers or toes. But in Apes they are channelled

halfe round like a gutter tile: whereas in man they be flat and broad. When one is dead, they G
will grow. In ravenous creatures, hooked they be and bowing inward: in dogs, right and streight,
save only that, which in most of them crooketh from behind their legs like a spurre. All creatures
that have the fashion of a foot, have toes thereto, except an Elephant. And yet hee seemeth to
have an apparence of five in number, but they are not divided asunder; or if they be, they are
not distinct one from another but very slightly, and liker rather to houfes than to nails: the fore-
feet also are bigger than the hinder. In the hin-feet they have short joints. The Elephant bendeth
his hammes inward, as doth a man: whereas all other living creatures, bow the joynts of their
hinder legs otherwise than of the former. For such as engender and breed young alive, bend their
knees before them: but the joint of their hough behind, cleane backward. Mens knees and el-
bowes, doe bow contrarie one to the other: so doe Beares and all the sort of Apes; which is the H
cause that they be not so swift of foot as others. Four-footed beasts, as many as lay egs, (as the
Crocodile and Lizards) have their knees before, bending backward; but those behind, bowing
forward: and yet their legs be crooked like a mans thumb. In like sort, they that have many feet:
unlesse it be the hin-feet of all, in as many as do skip and hop; for they all be streight. Birds (af-
ter the manner of four-footed beasts) doe bow their wings forward, but the joynt of their leggs
backward.

In the Knees of men, there is generally reposed a certain religious reverence, observed even
in all nations of the world. For, humble suppliants creepe and crouch to the knees of their supe-
riours; their knees they touch, to their knees they reach forth their hands: their knees (I say) they
worship and adore as religiously as the very altars of the gods. And for good reason haply they I
do so; because it is commonly received, That in them their lieth much vitall strength. For in the
very joint and knitting of both knees, on either side thereof before, there are two emptie blad-
ders (as it were) like a paire of cheekes; which hollownesse or concavitie, if it be wounded and
pierced through, causeth as present death as if the throat were cut. In other parts likewise of the
bodie, we use a certain religious ceremonie: for as our manner is to offer the backe-part of the
right hand to be kissed, so we put it forth and give it as well in testimonie of faith and fidelitie. It
was an auncient fashion in Greece, when they would make court and with great reverence ten-
der a supplication to some great personage, for to touch the chin. In the tender lappet of the
eare, is supposed to rest the seat of remembrance, which we use to touch when we purpose to take
one for to beare witnes of an arrest or other thing done, and to depose the same in the face of the K
court. Moreover, behind the right eare likewise, is the proper place of *Nemesis* (which goddesse
could never find yet a Latine name, so much as in the very Capitoll) and that place are we woont
to touch with the fourth finger (which is next to the least) in token of repentance, when we have
let fall some word rashly, and would crave pardon of the gods therefore. The crooked and swel-
ling veines in the legs, man alone hath, and women very seldome. *Oppius* writeth, that *C. Marius*
(who had been Consull of Rome seven times) endured, without sitting downe for the matter, to
have those vains taken forth of his legs: a thing that never any was knowne to abide before him.
All four-footed beasts begin to goe ordinarily on the right hand, and use to lie downe on the
right side: others go as they list. Lions and Camels only have this propertie by themselves, To
keepe pace in their march foot by foot, that is to say, they never set their left foot before their L
right, nor overreach with it, but let it gently come short of it and follow after. Men and women
have the greatest feet in proportion, of all creatures: but females ordinarily in every kind have
lesse and slender feet than males. Men and women onely have calves in their legs, and their legs
full of flesh. Howbeit we read in some writers, That there was one man in Ægypt had no calfe
at all to his legs, but was legged like a Crane. Man alone hath palmes of his hands, and broad
flat soles to his feet: and yet some there be, who that way are deformed and disfigured. And ther-
upon it came, that divers came to be surnamed *Planci*, [*i.* flat-footed:] *Plauti*, [*i.* splay-footed:]
Scauri, [*i.* with their ankles standing over-much out:] *Pansi*, [*i.* broad-footed.] Like as of their
misshapen legs, some have been named *Vari*, [*i.* wry-legged:] others *Vatiæ*, and *Vatinij*, [*i.* bow-
legged:] which imperfections beasts also are subiect unto. Whole houfed are all they that beare M
not hornes: in regard whereof, they be armed with houfe in stead of that offensive weapon: and
such as they be, have no ankle-bones: but all cloven-footed have those bones. Howbeit as many
as have toes, want ankles: and in one word, there is not one hath them in the fore-feet. Camels
have ankles like to Kine and Oxen, but somwhat lesse: for indeed they be cloven footed, although

th

A the partition be very little, and hardly diſcerned under the foot, but ſeemeth fleſh all over the ſole, as Beares alſo, which is the cauſe that if they travaile farre unſhod, their feet are ſurbated, and the beaſts will tire.

Chap. xlvi.

A diſcourſe of beaſts Houfes.

THe Houfes of Horſes, Mules, Aſſes, and ſuch like beaſts of carriage only, if they be pared and cut, will grow againe. In ſome parts of Sclavonia, the Swine are not cloven-footed, but whole houfed. All horned beaſts in manner be cloven footed: but no beaſt beareth
B two hornes, and hath withall the houſe of one entire peece. The Indian Aſſe hath onely one horn. The wild Goat alſo called Oryx, is cloven houfed, and yet hath but one horn. The Indian Aſſe moreover, of all whole houfed beaſts alone, hath the paſterne or ankle-bones. As for Swine, a mungrell kind they are thought to be of both, in regard of thoſe bones; and therupon are reputed filthie and accurſed. They that have thought that a man had ſuch, are ſoone convinced. As for the Once, he indeed alone of all thoſe whoſe feet are divided into toes, hath that which ſomewhat reſembleth a paſterne bone. So hath a Lion alſo, but that it is more crooked and winding. As for the ſtreight paſterne bone indeed, it beareth out with a belly in the joynt of the foot; and in that hollow concavitie wherein the ſaid bone turneth, it is tied by ligaments.

C

Chap. xlvii.

Of Birds feet, and their Clawes or Tallons.

OF Foules, ſome have their feet divided into clees and toes; others be broad and flat footed: and ſome are betweene both; which have indeed their toes parted and diſtinct, and yet their feet be broad between. But all of them have foure toes to a foot: to wit, three in the fore part, and one behind at the heele in manner of a ſpurre: howbeit this one is wanting in ſome that are long legged. The Wrynecke or Hickway, with ſome few others, have two before and other two behind. The ſame bird putteth out a tongue of a great length, like to ſerpents. It turneth the necke about and looketh backeward: great clawes it hath like thoſe of Choughes.
D Some bigger birds have in their legs one other ſhanke-bone more than ordinarie. None that have crooked tallons, be long legged. All that ſtaulke with long ſhankes, as they flie ſtretch out their legs in length to their tailes: but ſuch as be ſhort legged, draw them up to the mids of their belly. They that ſay, No bird is without feet: affirme alſo, That *Martinets have feet: like as al- *Apodes.
ſo the ſwift Swallow called Oce, and the ſea Swallow Drepanis. And yet ſuch birds come ſo little abroad, that they be ſeldome ſeene. To conclude, there have ben now of late, Serpents known flat-footed like Geeſe.

Chap. xlviii.

E

Of the feet of Inſects.

ALl Inſects having hard eies, have their fore-legges longer than the reſt, to the end that otherwhiles they might with them, ſcoure their eies, as wee ſee ſome flies doe: but thoſe whoſe hinder-legs are longeſt, uſe to skip and hop, as Locuſts. Howbeit, all of them have ſix legs apeece. Some Spiders there be, that have two over and above the ordinarie, and thoſe be very long: and every leg hath three joynts. As for ſome ſea-fiſhes, wee have ſaid before that they have eight legs: namely, Manyfeet, Pourcuttles, Cuttles, Calamaries, and Crabfiſhes: and thoſe moove their fore-clees like armes a contrary way, but their feet either they turne round or elſe fetch them crooked atone-ſide: and a man ſhall not ſee any living creature again, all round, but they. As for others, they have two feet to guide them and lead the way; but Crabs onely
F have foure. There be Inſects beſides upon the land, that exceed this number of feet; and then, they have no fewer than twelve: as the moſt ſort of wormes: yea and ſome of them reach to an hundred. No creature whatſoever hath an odde foot. As touching the legs of thoſe which be whole houfed, they be all full as long when they firſt come into the world, as ever they will be: well may they ſhoot out bigger and burniſh afterward, but (to ſpeake truly and properly) they

grow no more in length. And therefore when they be young ſucking foles, a man ſhall ſee them G
ſcratch the eare with the hinder-feet: which, as they waxe elder and bigger, they are not able to doe, becauſe their legges thrive only in outward compaſſe, and not in length. Which alſo is the cauſe, that when they be new foled, they cannot feed themſelves but kneeling, untill ſuch time as their necks be come to their full growth and juſt proportion.

Chap. xlix.

Of Dwarfes: and genitall parts.

THere are no living creatures in the world (even the very foules of the aire not excepted) but in each kind there be dwarfes to be found. As for thoſe males which have their inſtruments H
of generation behind, we have ſufficiently ſpoken. In Wolves, Foxes, Weeſils, and Ferrits, thoſe genitall members be of a bonie ſubſtance; and of them there be ſoveraign medicines made, for to cure the ſtone and gravell in mans bodie engendred. The Beares piſle alſo, becommeth as hard as an horne (men ſay) ſo ſoone as his breath is out of his bodie. As for Camels piſles, they uſe in the Eaſt countries to make their beſt bow-ſtrings thereof, which they account to be the ſureſt of all others. Moreover and beſides, the genitall parts put a difference betweene nation and nation; alſo betweene one religion and another: for the prieſts of *Cybele* (the great mother of the gods) uſe to cut off their owne members and to gueld themſelves, without daunger of death. On the contrary ſide, ſome few women there be, monſtrous that way, and in that part reſemble men: like as wee ſee there are Hermaphrodites, furniſhed with the members of both ſexe. In the daies of *Nero* the Emperour, the like accident was ſeene (and never before) in I
ſome four-footed beaſts. For he, in very truth, exhibited a ſhew of certaine Mares that were of the nature of thoſe Hermaphrodites, found in the territorie of Treviers in Fraunce: and they drew togither in his owne coach. And verily a ſtraunge and wondrous ſight this was, To ſee the great monarch of the world, ſit in a charriot drawne by ſuch monſtrous beaſts. As touching the ſtones of Rams, Buckes, and greater beaſts, they hang dangling downe betweene their legs: but in Bores, they be truſt togither, & knit up ſhort cloſe to their belly. Dolphins have theſe parts very long, and the ſame lying hidden within the bottome of their bellies. In Elephants likewiſe they be cloſe and hidden. In as many creatures as doe lay egges, the ſtones ſticke hard to their loines within the bodie: and ſuch bee ever moſt quicke of diſpatch in the act of generation, and ſoone have done the feat. Fiſhes and Serpents have none at all; but in ſtead therof there be two ſtrings K
* *Trierchis.* or veines reach from their kidnies to their genitall member. The * Buzzard (a kind of Hawke) is provided of three ſtones. A man hath his cods ſometimes bruiſed and broken, either by ſome extraordinarie accident, or naturally: and ſuch as be thus burſt, are counted but halfe men, and of a middle nature betweene Hermaphrodites and guelded perſons. To conclude, in all living creatures whatſoever, the males bee ſtronger than the females, ſetting aſide the race of Panthers and Beares.

Chap. l.

Of Tailes. L

THere is not a living creature, excepting men and Apes, (take as well thoſe that bring foorth their young alive, as others that lay egges onely) but is furniſhed with a taile, for the neceſſarie uſe of their bodies. Such as bee otherwiſe rough-haired and briſtly, yet have naked tailes, as Swine: thoſe that be long ſhagged and rugged, have very little and ſhort skuts, as Beares: but as many as have long ſide haires, be likewiſe long tailed, as Horſes. If Lizards or Serpents have their tailes cut off from their bodies, they will grow againe. In fiſhes they ſerve in good ſtead, as rudders and helmes to direct them in their ſwimming: yea they fit their turnes as well as oares, to ſet them forward as they ſtirre them, to this or that hand. There be Lizards found with double tailes. Kine and Oxen have the longeſt rumpe for their tailes M
of any other beaſts; yea and the ſame at the end, hath the greateſt tuft and buſh of haire. Aſſes have the ſaid docke or rumpe longer than horſes: and yet all ſuch beaſts either for ſaddle or packe, have it ſet out with long haires. Lyons tailes are faſhioned in the verie tip thereof, like unto Kine or Oxen, and Rats: but Panthers are not in that wiſe tailed. Foxes and Wolves

have

A haue ſhag tailes like ſheepe, but that they be longer. Swine carrie their tailes turned and twined round. And Dogges, that be of curres kind and good for nothing, carrie their tailes cloſe underneath their bellies.

Chap. lı.

Of Voices.

Ariſtotle is of opinion, That no living creature hath any voice, but ſuch onely as are furniſhed with lungs and wind-pipes: that is to ſay, which breath and draw their wind: & therefore he holdeth, that the noiſe which we heare to come from Inſects, is no voice at all, but
B a very ſound, occaſioned by the aire that getteth within them, and ſo being encloſed, yeeldeth a certaine noiſe, and reſoundeth againe. And thus it is (quoth he) that ſome keepe a humming or buzzing, as Bees: others make a cricking with a certain long traine, as the Graſhoppers; for euident it is, and well knowne, that the aire entring into thoſe pipes (if I may ſo tearme them) under their breaſt, and meeting with a certaine pellicle or thin skin, beateth upon it within, and ſo fetteth it a ſtirring, by which attrition, that ſhrill ſound commeth. Againe, it is as apparent, that in others, and namely, Flies and Bees, the buzzing which wee heare, beginneth and endeth ever with their flying. For (no doubt) that ſound commeth not of any wind that theſe little creatures either draw or deliver, but of the aire which they hold encloſed within, and the beating of their wings together. As for Locuſts, it is generally beleeved and received, that they make that ſound
C with clapping of their feathers or wings and thighes together. In like manner, among fiſhes in the waters, the great Scallops make a certaine noiſe as they ſhoot out of the water. But ſoft fiſhes and ſuch as lie covered with a cruſt or ſhell, neither utter voice, nor yet yeeld ſound. As for other fiſhes, although they be without lungs and pipes, yet are they not quite mute, but deliver a certaine ſound. Howbeit, they that would maintaine, that fiſhes are dumbe indeed, doe cavill and ſay, that ſuch a noiſe commeth of craſhing and grinding their teeth together. But what will they ſay then to the water-Goat, and the river-Bore, which in the river Achelous do evidently grunt: as alſo others, whereof we have ſpoken? Againe, ſuch as lay egges doe hiſſe: and Serpents draw their hiſſing out in length. The Tortoiſe hiſſeth likewiſe, but after a broken manner, with ſtaies and reſts betweene. Frogs keepe a croaking after their kind, as hath been ſaid before: & yet a man
D may ſeeme well to doubt thereof, how it ſhould be? conſidering, that the noiſe which they make commeth but from their teeth and mouth outward, and is not framed in their breaſt or ſtomack. Howbeit, in them there is great difference, by occaſion of the nature of diverſe countries. For in Macedonie (by report) they are mute: and there alſo the Swine be dumbe. As for birds, the leaſt evermore be moſt full of chirping, chaunting, and ſinging; and moſt of all, about the treading time. Some of them keepe a ſinging when they fight, as Quailes: others, when they go to fight, as Partridges: and ſome again after victorie, as Cockes. And they have a crowing by themſelves differing from the cackling of hens: whereas in other birds you cannot diſcerne the male from the female by the ſinging, as we ſee in Nightingales. Some ſing all the year long, others at certain times, as we have more at large declared, in the particular treatiſe of each bird. The Elephant he
E ſendeth out at his very mouth (ſomewhat ſhort of his muffle) a certaine ſound like to ſneeſing: but through that muffle or trunke of his, he ſoundeth (as it were) out of a Trumpet. Kine onely of females, have a bigger voice than Buls: for in every kind els the female hath a ſmaller voice than the males: like as wee ſee in mankind, the guelded Eunuchs. As an infant is comming into the world, it is not heard to crie all the while that it is in the birth, before it be fully borne. When it is a yeare old, it beginneth to prattle and talke, but not afore. King *Craſus* had a ſonne, who lying ſwaddled in his cradle, ſpake by that time he was ſixe months old: but this was a prodigious ſign, and preſaged the finall ruin of that kingdome. Thoſe children that begin with their tongue betime, are later ere they find their feet. The voice in man or woman beginneth to change & waxe greater at 14 years of age. The ſame in old age groweth again to be ſmaller: & in no other creaF ture doth it more often alter. Moreover, as touching the Voice, there be ſtrange and wonderfull matters reported, and thoſe worth the rehearſall in this place. For firſt and formoſt, we do ſee, That upon the ſkaffold or ſtage in publicke Theatres, if the floore be ſtrowed over well and thick with ſaw-duſt or ſand, the voice of the actors will be drowned & loſt, yea, and remaine ſtill above the ſkaffold, as if it were there buried: alſo where there be hollow & uneven wals round about:

or emptie drie-fats and tuns set, the voice will be taken up in them, and passe no farther. But the G
same voice, betweene two walls directly set one along by another, runneth apace: yea, & through a vault it may be heard from the one end to the other, be the sound never so low; provided, that all bee smooth and even betweene, and nothing to hinder the passage thereof. To speake yet somewhat more of the Voice: In it resteth a great part of the countenance and visage of man, whereby hee is discerned and knowne. For we know a man by hearing his voice before wee see him, even as well as if our eies were fixed upon him. And looke how many men and women there are in the world, so many sundrie voices there bee, for each one hath a severall voice, as well as a face, by himselfe. And hereof ariseth that varietie of nations, that diversitie of languages, all the world through. From hence come so many tunes in song, so many notes in Musicke, as there bee. But above all, the greatest thing to be noted in Voice, is this, That whereas the utte- H
rance of our mind, thereby dooth distinguish us from brute and wild beasts: the same even among men maketh as great a difference betweene one and another, as the other is betweene man and beast.

Chap. lii.

Of the excressence and superfluitie of some members. Also the discourse and sayings of Aristotle as touching mans life.

Looke what part is more than ordinarie by nature, in any living creature, the same serveth to I
no use. As for example, the sixt finger in a mans hand is evermore superfluous, and therfore fit for nothing. It was thought good in Ægypt once to nourish and keep a monstrous man who had foure eies, whereof twaine stood in the backe part of his head behind: but surely he saw never a whit with them. I wonder verily, that *Aristotle* not onely beleeved, but also sticked not to set downe in writing, that there were certaine signes in mans bodie, whereby wee might foreknow whether he were long lived or no. Which, albeit I take to be but vanities, and not rashly to bee uttered without good advisement, (because I would not have men amused, and busily occupied in searching Prognostications in themselves, as touching their own life) yet will I touch the same, and deliver them in some sort, since so great a clearke as *Aristotle* was, held them for Resolutions, and thought them worth the penning. Hee putteth downe therefore, as signes of short life, thin teeth, long fingers, a leaden hew, many lines in the palme of the hand, with crosse bars or short K
cuts. Contrariwise, hee saith, That those who are Lute backed, thicke shouldered, and bending forward, who also in one hand have two long life lines, and above two and thirtie teeth in their head, and besides are well hanged, and have large eares, bee long lived. And as farre as I can gueesse, he requireth not, that all these signes should concurre and meet together, for to signifie as is beforesaid: but, as I suppose, his meaning is, that every one of them by it selfe is significative and sufficient. Surely, these Physiognomers and Chiromantines or Palmestrie, as frivolous and foolish as they be, yet now adaies are in credite, & every man is full of them. *Trogus*, a most grave and renowmed Author among us, is of opinion moreover, That there is judgement to bee given not onely of mens complexions, but also of their conditions, by their very sight and countenance: and surely, I thinke it not amisse to set downe his very words. A large and broad fore- L
head (saith he) is a token of a dull conceit and heavie understanding: and contrariwise, they that have a little forehead, are by nature fickle and inconstant: and finally, a round forehead, and bearing out, argueth anger and choller, as if this outward tumor thereof bewraied the swelling and boiling of that humor. In whomsoever the eie-browes are streight and lie even, they betoken soft and effeminat persons: but if they bend and bow toward the nose, they shew austeritie. Say their turning and bending be toward the temples of the head, they are signs of a mocker and scorner: finally, where they lie very low, such persons (be yee sure) are malicious, spightfull, and envious. Long eies, in whomsoever they be, doe testifie hurtfull and daungerous persons. They that have the corners full of flesh, are of a malicious nature: where the white of the eie is spread large and broad, it is a token of impudencie. And such as every whiles be winking and closing of their eie- M
lids, (trust me truly) they bee giddie-headed, and unstaied. Those that have great eares, and especially the laps therof, make account they be blabs of their tongue, and fooles withall. Thus much of Physiognomie, according to *Trogus*.

A

Chap. liii.

Of the ſpirit and breath of living creatures: alſo, what things be venoimous in taſt, and do kill. Of mens food. And laſt of all, what hindereth digeſtion and concoction of meat.

THe breath of Lions hath a very ſtrong deane and ſtinking ſmell with it: but that of a Beare is peſtilentiall and deadly: inſomuch, as no beaſt will touch where a Beare hath breathed and blowne upon: for ſurely ſuch will ſooner corrupt and putrifie than others, as if they were blaſted. As for the breath of a man, Nature hath ſuffered it to be infected many waies, namely, B by the viands and meat that hee eateth; by faultie and rotten teeth; and moſt of all, by old age. And yet our breath, without which there is no ſence, feeleth no pain it ſelfe, as being void of feeling, and altogether ſenceleſſe. The ſame goeth and commeth continually without reſt and intermiſſion: the ſame is alwaies new and freſh: and as it ſhall depart out of the bodie laſt, ſo it ſhall remaine alone, when all is gone beſides it. Finally, returne it ſhall into the aire and the heaven, from whence it firſt came. Now, albeit this breath that we draw, be the very meanes whereby we live, and without which we cannot maintaine our life; yet otherwhiles troubleſome it is unto us, and plagueth us as a very puniſhment ordained for us. The Parthians of all others bee moſt ſubject to this inconvenience, even from their very youth, by reaſon of their groſſe feeding of all meats indifferently, without choiſe and diſcretion: and eſpecially of their drunkenneſſe. For exC ceſſive drinking of wine cauſeth ſtinking breath. But the Nobles and great States of that countrey have a remedie therefore, and make their breath ſweet, by taking with their meats the kernels of Pome-citrons, which yeeld a moſt pleaſant ſavour. The very breath of Elephants cauſeth Serpents to come out of their holes: but Stags and ſuch other Deere, therewith doe blaſt and burne them. As touching certaine kinds of men, who by ſucking only could draw and fetch out the poiſon out of bodies wounded by venomous Serpents, we have alreadie ſpoken. As for hogs, they will feed of Serpents, and doe well ynough, whereas to other creatures they be no better than poyſon. All thoſe little creatures, which we named Inſects, will die if they bee but ſprinckled or wet with Oile. The Vultures or Geires which flie from ſweet ointments, are deſirous yet of other odors and perfumes: like as Beetles like well the ſmell of Roſes. Some Serpents there be that the D Scorpion killeth. The Scythians poyſon their arrow heads with the venomous filthie bloud of vipers and mans together. A preſent poyſon this is, and remedileſſe; and it no ſooner toucheth but it taketh, and killeth forthwith. As touching thoſe creatures that feed of poyſon, we have ſpoken heretofore. Moreover, ſome creatures there be, which otherwiſe being harmeleſſe, if they bee fed with venomous beaſts or plants, become alſo themſelves noiſome and daungerous. The wild Bores in Pamphylia, and upon mountaines of Cilicia, that have eaten Salamanders, become venomous: and whoſoever chaunce to eat of their veniſon, are ſure to die upon it. And yet cannot a man know any ſuch venome therein, either by ſent at noſe, or taſt of tongue. Moreover, the very water or wine wherein a Salamander hath been ſtiffled and ſuffocated, or whereof it hath but drunke, will kill a man that ſhall but ſip thereof never ſo little. The like is to be ſaid of that Frog E which we call *Rubeta*, [i. the toad that liveth in buſhes.] See how many ambuſhes our life is ſubject unto! Waſpes feed greedily on Serpents, and upon that food their ſtings bee deadly. And therefore you ſee it skilleth much what meats we eat, and the manner of our food is very materiall. As we may learne farther in that treatiſe which *Theophraſtus* wrote of the Ichthyophagi that live of fiſh: where he hath ſet downe, That Kine and Oxen doth eat fiſh, but they muſt in any caſe be alive.

To come now unto mens diet: their beſt and moſt wholeſome feeding is upon one diſh and no more, and the ſame plaine and ſimple: for ſurely this hudling of many meats one upon another of diverſe taſts, is peſtiferous: but ſundrie ſauces are more daungerous than that. As touching our concoction: all tart and ſharpe meats are of hard digeſtion: alſo fulneſſe and ſurF feting: haſtie and greedie feeding likewiſe be enemies to digeſtion, and hurtfull to the ſtomacke. In ſumme, we digeſt our meat more hardly in Summer than in Winter, and in age worſe than in youth. Now to helpe and remedie all this exceſſe and enormitie, vomite hath been deviſed: but uſe it whoſoever will, he ſhall find the naturall heat of his bodie thereby to decay: he ſhall ſenſibly perceive that it hurteth the teeth, and eies eſpecially. To goe to bed upon a full ſtomacke, and

to

to digeſt in ſleepe, is better to make a man fat and corpulent, than ſtrong and luſtie. And therfore G
wreſtlers and champions who are acquainted with full and liberall diet, uſe rather to walke after meat for to digeſt. And in one word, much watching maketh beſt digeſtion.

Chap. liiii.

☞ *Of making bodies fat or leane. Alſo, what things being taſted, doe allay hunger, and quench thirſt.*

BOdies grow to be burly and groſſe, with ſweet meats, fat feeding, and much drinke: contrariwiſe, drie diet, actually cold, and thirſt withall, make a bodie leane. There bee beaſts in Affricke, and eſpecially the leſſer ſort, which drinke not above once in foure daies. A man may H
well live ſeven daies without any food whatſoever: & well it is knowne, that many have continued more then eleven daies without meat or drinke. There have been ſome knowne ſo hungrie evermore, that nothing would ſatisfie them, and ſuch have died for very famine, although they did nothing els but eat: a diſeaſe incident to no creature but to man. Some againe can aſſuage and appeaſe their hunger, yea, and ſlacke and extinguiſh their thirſt with a very little, and yet preſerve and maintaine the naturall ſtrength of their bodie: namely, with taſting Butter, Cheeſe made of Mares or Aſſes milke, and Licorice. But to conclude and knit up this diſcourſe: the worſt and moſt dangerous thing every way that can be in all the courſe of our life, is Exceſſe and Superfluitie; but to the health of our bodies moſt of all: and therefore the beſt courſe is, to cut off by all
meanes that which is offenſive and heavie to the bodie. Thus much ſhall ſuffice as touching li- I
ving and ſenſible creatures. Let us therefore now proceed to the reſt of Natures workes.

THE TVVELFTH BOOKE OF K
THE HISTORIE OF NATVRE,
WRITTEN BY C. PLINIVS SECVNDVS.

☞ *The Preface.*

THus you ſee by that which hath been written before, what are the natures as well in E.
generall, as particularly in parts, of all living and ſenſitive creatures within the compaſſe of our knowledge. It remaineth now to diſcourſe of thoſe which the earth yeeldeth: and even they likewiſe are not without a ſoule in their kind (for nothing liveth which wanteth it:) that from thence we may paſſe to thoſe things that lie hidden within the earth, and are to bee digged out of it: to the end, that no worke and benefite of Nature might overpaſſe our hands, and be omitted. And in truth, theſe treaſures of hers lay long covered under the ground, inſomuch as men were perſuaded, that Woods and Trees were the laſt and onely goods left unto us and beſtowed upon us by Nature. For of the fruit of trees had wee our firſt food: their leaves and branches ſerved to make us ſoft pallets and couches within the caves: and with their rinds and barke we clad and covered our nakedneſſe. And even at this day, ſome nations there be M
that live ſtill in that ſort, and no otherwiſe. A wonderfull thing therefore it is, that from ſo ſmall and baſe beginnings we ſhould grow to that paſſe in pride, that we muſt needs cut through great mountaines for to meet with marble: ſend out as farre as to the Seres for ſilke ſtuffe to apparell us: dive downe into the bottome of the red ſea for pearles: and laſt of all, ſinke deepe pits even to the bottome of the earth,

for

A *for the precious Hemerauld. For this pride and vanitie of ours, wee have deviſed meanes to peirce and wound our eares: becauſe, forſooth, it would not ſerve our turnes to weare coſtly pearles and rich ſtones in carkanets about our necke, borders upon the haire of our head, bracelets about our armes, and rings on our fingers, unleſſe they were engraven alſo and cut into the very fleſh of our bodies. Well then, to follow the courſe of Nature, and the order of our life (as meet it is we ſhould) we will treat in the firſt place of Trees, and lay before mens faces the life of the old world, and what was their behavior and demeanure at the firſt, in their manner of living.*

Chap. I.

The honour done in old time to Trees. When the Plane-trees were firſt knowne in B *Italie, and of their nature.*

IN old time, Trees were the very temples of the gods: and according to that auncient manner, the plaine and ſimple peaſants of the countrey, favouring ſtill of antiquitie, doe at this day conſecrate to one god or other, the goodlieſt & faireſt Trees that they can meet withall. And verily, we our ſelves adore not with more reverence and devotion the ſtately images of the gods within our temples, (made though they be of glittering gold, and beautifull yvorie) than the very groves and tufts of trees, wherein we worſhip the ſame gods in all religious ſilence. Firſt and formoſt, the auncient ceremonie of dedicating this and that kind of Tree to ſeverall gods, as C proper and peculiar unto them, was alwaies obſerved, and continueth yet to this day. For the mightie great Oke named Æſculus, is conſecrated to *Iupiter*; the Lawrell to *Apollo*; the Olive tree to *Minerva*; the Myrtle to *Venus*; and the Poplar to *Hercules*. Moreover, it is received and beleeved generally, That the Sylvanes and Faunes, yea, and certaine goddeſſes, are appropriate and aſſigned to woods and forreſts; yea, there is attributed unto thoſe places a certaine divine power and godhead, there to inhabite: as well as unto heaven the proper ſeat for other gods and goddeſſes. Afterwards, in proceſſe of time men began to taſt alſo the fruit of Trees, & found therin a juice (without all compariſon) more lenitive & pleaſant to the contentment of their nature, than that which came of corne and graine: for thereof made they Oile, a ſingular liquor to refreſh and comfort the outward members and parts of the bodie: out of it they preſſed Wine, D the onely drinke that giveth ſtrength within, and fortifieth the vitall powers. From thence gather we ſo many fruits, yearely growing and comming of themſelves without the labour and induſtrie of man. And albeit, to ſerve our bellie and pleaſe our tooth, we ſticke not to maintaine fight and deale in combat with wild beaſts in the forreſts; although we hazard our ſelves in the ſea, to meet with monſtrous fiſhes which are fed with the dead bodies of men caſt away by ſhipwracke; and all to furniſh and ſet out the table: yet is not the cheare thought good ynough, unleſſe fruits alſo be ſent up at the latter end, that they may have the honour in all feaſts of the ſecond ſervice, and the banket. Beſides all this, Trees ſerve our turnes for a thouſand neceſſarie uſes, without which our life could not be well maintained. With Trees we ſaile over ſeas into ſtraunge lands, and by tranſporting commodities and marchandiſe too and fro, we make lands meet together: of Trees E we build our houſes wherein we dwell. Trees were the matter in times paſt, wherof were made the images of the gods. For as yet no man thought of the coſtly Anatomie of the Elephant, neither was their tooth in any account: whereas now adaies wee make the treſſels, frames, and feet of our tables, even of the ſame yvorie that we ſee the faces of gods are portraied of; as if we had our warrant from them to begin and maintaine our roiot and ſuperfluitie in this behalfe. We find in old Chronicles, That the Frenchmen or Gaules tooke occaſion firſt to come downe into Italie, and to overſpred the whole countrey (notwithſtanding they were beforetime debarred from thence by the impregnable fort, as it were, and the unpaſſable bulwarke of the Alpes between:) becauſe one *Elico*, a Swiſſer or Helvetian, who had made long abode at Rome (where he was entertained for his skill in Smiths worke and Carpentrie) at his return home again into his countrie, brought F over with him drie Figs and Raiſons: the firſt fruits alſo as it were of Oile and Wine for a taſt, to ſet their teeth a watering. And therefore the French had good reaſon, and might well be borne withall and pardoned, for ſeeking to conquer even by force of armes thoſe countries where ſuch fruits grew. But who would not marvell rather at this, That our people here ſhould go into farre countries, and fetch a Tree from thence, even out of another world, only for the ſhade that it giveth?

veth? For ſurely, of fruitfull trees Italie hath ſtore ynough. And what tree ſhould that be, but the G
very Plane? brought firſt over the Ionian ſea into the Iſland Diomedea, for to beautifie the tomb
of *Diomedes*. From thence tranſlated into Sicilie, and ſo beſtowed at length upon Italie, & there
planted, as a moſt ſingular, rare, and ſpeciall tree. But now is it caried as far as Terwin and Tour-
nay in Fraunce, where it is counted an appertenance to the very ſoile that paieth tribute: inſo-
much, as people that will but walke and refreſh themſelves under the ſhaddow of it, muſt pay a
cuſtome therefore unto the people of Rome. *Dionyſius* king of Sicilie, and the firſt of that name,
cauſed them to be brought from Rhegium in Calabria to his roiall cittie, where his pallace was;
onely of a ſingularitie, becauſe they ſhould be ſeen to give a ſhade before his houſe, where after-
wards was made the Colledge or place of publick exerciſe. But theſe trees did not greatly like the
ſoile, for they never grew big, nor proſpered to any purpoſe. Howbeit, I find in writers, that H
there were other beſides in Italie, and namely about Adria, as alſo in Spaine. And all this happe-
ned about the time that Rome was ſacked by the Gaules. But afterwards they came to be ſo high-
ly eſteemed, that for to make them grow the better, men would be at the coſt to water them with
wine: for this was found by experience, that nothing was ſo good for them as to poure wine to
their roots. Thus have wee taught even our trees alſo to drinke wine, and be drunke. The Plane
trees of any great name at firſt, were thoſe that grew in the walking place of the Academia in A-
thens; where the root of one outwent the boughs, 36 cubits in length. Now in this age there gro-
weth a famous one in Lycia, neare unto the high way where men paſſe too & fro, & it hath a plea-
ſant cold fountain adjoining to it: the ſame is hollow within like to an houſe, & yeeldeth a cave of
81 foot in compaſſe: but it carieth ſuch an head withall like a grove, ſo large, ſo broad, & ſo bran-
ched, that every arm reſembleth one entire tree: inſomuch, as the ſhade therof taketh up & ſprea- I
deth a great way into the fields. And becauſe in every reſpect, it might reſemble a very cabbin
and cave indeed, there are ſtonie bankes & ſeats within, in forme of an arbor round about, made
as it were of pumiſh ſtone overgrown with moſſe. And in truth, this tree and the ſituation therof,
is ſo admirable, that *Licinius Mutianus* thrice Conſull, and lately Lieutenant generall and go-
vernour of that province, thought this one thing worthie to be recorded as a memoriall to po-
ſteritie, That he and eighteen more perſons of his companie, uſed to dine and ſup within the hol-
lowneſſe of that tree: where the very leaves yeelded of the own ſufficient bed and bench-roume
to reſt and repoſe themſelves: where they might ſit ſecured from daunger of wind to blow upon
them: where whiles he ſat at meat, he wiſhed nothing more than the pleaſure to heare the ſhow-
ers of raine to pat drop by drop, and rattle over his head upon the leaves: & finally, that he tooke K
much more delight to lie within the ſame cabbin, than in a ſtately chamber built of fine marble,
all glorious within with hangings of tapiſtrie and needleworke, of ſundrie colours, and the ſame
ſeeled over head with an embowed roofe laid with beaten gold. Moreover, *Caligula* the Emperor
had ſuch another Plane tree growing in the countrey about Velitræ, moſt artificially: wherein he
uſed to take great pleaſure, with admiration of the ſundrie lofts and plankes one over another,
the large ſettles alſo and ſpacious branches that the boughs yeelded, where hee was wont to ſit
at repaſt, making one of the fifteene gueſts. For the roume was of that capacitie, that it would re-
ceive not only ſo many to ſit with eaſe at the table, but alſo the gentlemen & ſervitors that waited
and miniſtred unto them: and he tearmed this ſupping place by the name of, His neaſt: becauſe L
it ſeemed like a birds neſt in a tree. There is to be ſeene at Gortyna, within the Iſland Candie, one
Plane-tree near unto a faire fountain: recorded it is as well by Greeks as Latines in their writings,
and by the teſtimonie of them both, never ſheddeth the leaves, but remaineth alwaies greene, as
well in Winter as Summer: by occaſion whereof aroſe the tale (ſo much given is Greece to de-
viſe fables by and by of every ſmall matter) That *Iupiter* under that tree defloured the young la-
die *Europa*: as if (forſooth) there were no other Tree but it of the ſame kind and nature, in Cy-
prus. But (as the natute of man is evermore curious, and ſeeking after novelties) the Candiotes,
deſirous to have of the ſame race within Creet, ſet many ſlips thereof in ſundrie places, as if they
longed to have more ſuch vicious fruit (as is beforenamed:) for in very deed that Tree is in no
one thing more commendable, than for excluding the heat of the Sunne in Summer, and ad- M
mitting it in Winter. In the time of *Claudius Cæſar*, late Emperour, there was an enfranchiſed
ſlave belonging to *Marcellus Eſerninus*, a daintie guelded Eunuch of Theſſalie, and exceeding
rich, who cauſed certaine Plane trees to be brought out of Candie into Italie, for to plant them
at a manor which hee had in the territorie neare to Rome. This freed-Eunuch for to grow into

more

A more power and favor with *Cæsar*, had engraffed himselfe, as adopted among his freed-men: and surely for his wealth might well be called *Dionysius*, who was the first that transplanted these kind of trees. Thus you see, that over and above those monstruosities which Italie hath devised of it selfe, wee have remaining and reigning among us those also of straunge and forraine nations abroad in the world.

Chap. II.

Of the low or dwarfe Plane-tree. And who first devised to clip and shred Arbours.

B AS big as these Plane trees are, yet there be those of a forced smalnes to the other, called Chamæplatani: whereby a man may perceive, that we have invented the meanes to have abortive trees also; even to hinder their growth, that they cannot come to their full perfection. And therefore even in trees as well as in other living creatures, there is a certaine infelicitie, which may well be tearmed, A dwarfish untowardnesse. This smalnesse in trees may come, by the manner of planting them, as well as by cutting and keeping them downe. The first man that devised to shred and cut arbours, was one *Cn. Martius*, a gentleman of Rome, and a favourit of the Emperour *Augustus*: and this invention hath not been knowne above 80 yeeres.

Chap. III.

C

Of Trees that be straungers in Italie: and namely, of the Citron or Limon tree.

CHerrie-trees, Peach-trees, and generally all that either have Greeke names or any other but Latine, are held for aliens in Italie. Howbeit some of them now are enfranchised and taken for free denizens among us: so familiar they be made unto us, and they like the ground so well. But of them, we will speake in the ranke of those trees that beare fruit. For this present, we are to treat of those that be meere forrainers: and for good lucke sake, begin wee will with that, which of all others is most holesome; to wit, the Citron tree, called the Assyrian tree; and by some, the Median Apple-tree: the fruit whereof is a countrepoison and singular Antidote against all venome. The tree it selfe, beareth a leafe like unto an Arbut tree; mary it hath certaine pricks among. The Pomecitron is not so good to be chewed and eaten of it selfe: howbeit very odoriferous it is: as be the leaves also thereof, which are used to be laid in wardrobes among apparell; for the smell thereof will passe into the clothes, and preserve them from the moth, spider, and such like vermine. This tree beareth fruit at all times of the yeere: for when some fall for ripenesse, others wax mellow; and some againe, begin then but to shew their blossome. Many forainers have assaied to transplant them, and set them in their own countries, in regard of their excellent vertue to resist poisons. And for this purpose they have caried yong quicksets, or plants of them, in earthen pots made for the purpose, and enclosed them well with earth: howbeit the roots had libertie given them to breath (as it were) at certaine holes for the nones, because they should not bee clunged and pent in prison. Which I rather note, because I would have it knowne once for all, and well remembred, That all plants which are to be remooved and carried farre off, must be set very close, and used in the same order most precisely. But for all the care and pains taken about it, for to make it grow in other countries, yet would it not forget Media and Persia, nor like in any other soile, but soon die. This is that fruit, the kernels whereof (as I said before) the lords and great men of Parthia use to seeth with their meat, for to correct their foure and stinking breaths. And verily there is not a tree in all Media, of better respect than is the Citron tree. As for those trees in the region of the Seres (which beare the silke woll or cotton) we have spoken thereof in our Cosmographie, when we made mention of that nation.

D

E

Chap. IIII.

F

Of Indian Trees: and when the Ebene was first knowne at Rome.

IN like manner, discourssed we have of the talnesse and greatnesse of Indian trees. Of all those trees which be appropriate to India, *Virgill* hath highly commended the Ebene above the rest:

reſt: and hee affirmeth, That it will not grow elſewhere. But *Herodotus* aſſigneth it rather to Æthiopia; and ſaith, That every three yeares the Æthiopians were wont to pay by way of tribute unto the kings of Perſia, * 100 billets of the timber of that tree, togither with gold and yvorie. Moreover, I muſt not forget (ſince that mine author hath ſo expreſſely ſet it downe) that the Æthiopians in the ſame regard were bound to pay in like manner, twentie great and maſſie Elephants teeth. In ſuch eſtimation was Ivorie then, namely in the 310 yeere after the foundation of Rome; at what time as *Herodotus* put forth that Hiſtorie at Thurij in Italy. The more mervaile it is, that we give ſo much credit to that writer, ſaying as hee doth, How that in his time and before, there was no man knowne in Aſia or Greece, nor yet to himſelfe, who had not ſo much as ſeene the river Po. The Card or Map of Æthiopia, which lately was preſented and ſhewed to the Emperor *Nero* (as we have before ſaid) doth ſufficiently teſtifie, That from Syene (which confineth and boundeth the lands of our Empire and dominion) as farre as to the Iland Meroe, for the ſpace of 996 miles, there is little Ebene found: and that in all thoſe parts betweene, there be few other trees to be found, but Date trees. Which peradventure may be a cauſe, That Ebene was counted a rich tribute, and deſerved the third place, after Gold and Ivorie. Certes, *Pompey* the Great, in that ſolemnitie of triumph for the victorie and conqueſt of *Mithridates*, ſhewed one Ebene tree. *Fabianus* is of opinion, that it will not burne: howbeit, experience ſheweth the contrarie, for take fire it will, yea and caſt a pleaſant and ſweet perfume. Two kinds there be of Ebene: the one, which as it is the better, ſo likewiſe it is rare and geaſon; it carrieth a trunke like another tree, without knot; the wood thereof is blacke and ſhining; and at the very firſt ſight, faire and pleaſant to the eye, without any art or poliſhing at all. The other, is more like a ſhrub, and putteth foorth twigs as the Tretrifolie. A plant this is, commonly to be ſeene in all parts of India.

* 100.

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I

Chap. V.

Of certaine Thornes and Fig-trees of India.

THere groweth alſo among the Indians, a Thorne reſembling the latter kind of Ebene; and found to ſerve for the uſe of candles: for no ſooner commeth it neare unto the fire, but it catcheth a flame, and the fire leapeth preſently unto it. Now it remaineth to ſpeak of thoſe trees, which ſet *Alexander* the Great into a wonder at what time as upon his victorie hee made a voiage for to diſcover that part of the world. Firſt and formoſt, there is a Fig-tree there, which beareth very ſmall and ſlender figges. The propertie of this Tree, is to plant and ſet it ſelfe without mans helpe. For it ſpreadeth out with mightie armes, and the loweſt water-boughes underneath, doe bend ſo downeward to the very earth, that they touch it againe, and lie upon it: whereby, within one yeares ſpace they will take faſt root in the ground, and put foorth a new Spring round about the Mother-tree: ſo as theſe braunches thus growing, ſeeme like a traile or border of arbours moſt curiouſly and artificially made. Within theſe bowers the ſheepheards uſe to repoſe and take up their harbour in Summer time: for ſhadie and coole it is, and beſides well fenced all about with a ſet of young trees in manner of a pallaiſado. A moſt pleaſant and delectable ſight, whether a man either come neare, and looke into it, or ſtand a farre off: ſo faire and pleaſant an arbour it is, all greene, and framed arch-wiſe in juſt compaſſe. Now the upper boughes thereof ſtand up on high, and beare a goodly tuft and head aloft like a little thicke wood or forreſt. And the bodie or trunke of the Mother is ſo great, that many of them take up in compaſſe threeſcore paces: and as for the foreſaid ſhaddow, it covereth in ground a quarter of a mile. The leaves of this Tree are very broad, made in forme of an Amazonian or Turkiſh Targuet: which is the reaſon, that the figges thereof are but ſmall; conſidering, that the leafe covereth it, and ſuffereth it not to grow unto the full. Neither doe they hang thicke upon the tree, but here and there very thin, and none of them bigger than a beane. Howbeit, ſo well and throughly ripened they bee with the heat of the Sunne, notwithſtanding the leaves are betweene, that they yeeld a moſt pleaſant and ſweet rellice in taſt, and are a fruit for a king, anſwerable to the mightie, huge, and prodigious tree that beareth it. Theſe fig-trees grow abundantly about the river Aceſine.

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Chap.

A

Chap. VI.

Of the tree named Pala: of other Indian trees, whereof the names be unknowne. Alſo of thoſe that beare Wooll or Cotton.

ANother tree there is in India, greater yet than the former, bearing a fruit much fairer, bigger, and ſweeter than the figs aforeſaid; and wherof the Indian Sages and Philoſophers do ordinarily live. The leafe reſembleh birds wings, carrying three cubits in length, and two in bredth. The fruit it putteth forth at the bark, having within it a wonderfull pleaſant juice: inſomuch as one of them is ſufficient to give four men a competent & full refection. The trees name
B is Pala, and the fruit thereof is called Ariena. Great plentie of them is in the country of the Sydraci, the utmoſt limit of *Alexander* the Great his expeditions and voiages. And yet is there another tree much like to this, and beareth a fruit more delectable than this Ariena, howbeit the guts in a mans belly it wringeth, and breeds the bloudie flix. Whereupon *Alexander* made open proclamation and ſtreightly forbad, That no man ſhould taſt thereof. As for the Macedonian ſouldiers, they talked much of many other trees, but they deſcribed them in generall tearmes only, and to the moſt of them they gave no names at all. For one tree there is beſides, in other reſpects reſembling the Terebinth, and it carrieth a fruit much like to Almonds; only it is leſſe, but of a moſt ſweet and toothſome taſt. In Bactriana verily, ſome take it to be a ſpeciall kind of the Terebinth indeed, rather than a tree like unto it. But that tree which carrieth a fine
C flaxe, whereof they make their daintie linnen and lawne, it hath leaves like to thoſe of a mulberrie tree, and beareth a red berrie like to the hips of an Eglantine. They plant and ſet theſe in their fields and plaines: and ſurely, ſtanding as they doe in ſuch order, there are no rowes of any trees that yeeld a fairer ſight and proſpect. The Olive tree of India is but barren, ſave that it bringeth a fruit much like the wild Olive.

Chap. VII.

Of Pepper trees: of the Clove tree, and many other.

D THe trees that beare Pepper every where in thoſe parts, be like unto our Iuniper trees. And yet ſome have written, That they grow onely upon the front of the hill Caucaſus on that ſide which lieth full upon the Sunne. The cornes or graines that hang thereupon, differ from Iuniper berries: and thoſe lie in certaine little huskes or cods like to the pulſe called Faſels or Kidney beanes. If that be plucked from the tree before they gape and open of themſelves, they make that ſpice which is called Long-pepper: but if as they do ripen, they cleave & chawne by little and little, they ſhew within, the white pepper: which afterwards beeing parched in the Sunne, chaungeth colour and waxeth blacke, and therewith riveled alſo. Peppers be ſubject to the injurie of the weather as well as other fruits: for if the ſeaſon be unkindly and untemperate, they will catch a blaſt, and then the ſeeds will be deafe, void, light, and naught. This fault is called among the Indians, Brechmaſis, which in their language ſignifieth, an abortive or untimely
E fruit. This pepper of all other kinds is moſt biting and ſharpe, but it is the lighteſt, and pale of colour withall. The blacke is more kindly and pleaſant: and the white is more mild in the mouth than both the other. Many have taken Ginger (which ſome call Zimbiperi, & others Zingiberi) for the root of that tree: but it is not ſo, although in taſt it ſomewhat reſembleth pepper. For Ginger groweth in Arabia and Troglodytica in medows about the villages: and it is a white root of a certaine little heatb. And howſoever it be very bitter and biting, yet it quickly meeteth with a worme, and rotteth. A pound of Ginger is commonly ſold at Rome for ſix deniers. Long pepper is ſoone ſophiſticated, with the Senvie or muſtard-ſeed of Alexandria: and a pound of it is worth fifteen Romane deniers. The white coſteth ſeven deniers a pound, and the blacke is ſold after foure deniers by the pound. As for Pepper, I wonder greatly that it ſhould be ſo much in
F requeſt as it is: For whereas ſome fruits are ſweet and pleaſant in taſt, and therefore deſired; others beautifull to the eye, and in that regard draw chapmen: pepper hath neither the one nor the other. A fruit or berrie it is (call it whether you will) neither acceptable to the tongue nor delectable to the eye: and yet for the biting bitternes that it hath, we are pleaſed therewith, and we muſt have it fet forſooth from as farre as India. What was he, gladly would I know, that ventured

tured firſt to bite of pepper and uſe it in his meats? Who might he be, that to provoke his appetite and find himſelfe a good ſtomacke, could not make a ſhift with faſting and hunger onely? Surely Ginger and Pepper both, grow wild in thoſe countries where they doe like, and yet wee muſt buy them by weight, as we doe gold and ſilver. Of late daies here in Italie, wee have made meanes to have the Pepper tree grow among us: and verily a little ſcrubbie plant it is, or ſhrub rather; bigger ſomewhat than the Mirtle, and not farre unlike. The graine that ours beareth, carieth the very ſame bitternes that the greene pepper of India is thought to have before it be full ripe. For here it wanteth the due parching and ripening againſt the ſunne: and by that meanes commeth ſhort of the rivels and blackneſſe that the outlandiſh pepper hath. Sophiſticated it is, by entermingling with it the graines or berries of Iuniper: for ſurely, they doe marveilous ſoone take the taſt and ſtrength of Pepper. And as for the weight, there be divers wayes to deceive the chapman therein. G H

Over and beſides, there is another fruit that commeth out of India, like unto pepper cornes, and it is called Cloves, but bigger ſomewhat and more brittle. And they ſay, that it groweth in a certaine grove conſecrated to their gods in India. Tranſported over it is unto us for the ſweet ſmell that it caſteth.

Moreover, the Indians have a thornie and prickie plant, which beareth a fruit like to pepper, and paſſing bitter. The leaves bee ſmall and grow thicke after the manner of Privet: it putteth forth braunches three cubits long: the barke is pale, the root broad and of a woodie ſubſtance, reſembling the colour of boxe. Of the infuſion of this root in faire water, togither with the ſeed, in a braſen veſſell, is made that medicine or compoſition which is called Lycium. A buſh there groweth likewiſe upon mount Pelion [like Pyxiacantha, *i.* the Berberrie buſh] whereof is made a counterfeit Lycium. In like manner, the root of the Daffodill, with an Oxe gall, Wormwoot, Frankincenſe, and the mother or lees of Oile, will doe the ſame. But the beſt Lycium and moſt medicinable, is that which doth yeeld a great froth or ſcum. The Indian merchants doe ſend it over in bags made of the skins either of Camels or Rhinocerotes. In ſome parts of Greece they name the very buſh whereof this Lycium is made, Pyxacanthum Chironium. I

Chap. viii.

Of Macir, Sugar, and the trees of the region Ariana.

K

THe Macir likewiſe is brought out of India. A reddiſh barke or rind it is, of a great root; and beareth the name of the tree it ſelfe: but the forme of that tree I know not how to deſcribe. This rind ſodden in hony, & ſo condit as a Succade, is a ſingular good medicine for thoſe that be troubled with the Dyſenterie or bloudie flix. As for Sugar, there is of it in Arabia; but the beſt commeth out of India. * A kind of honey it is, gathered and candied in certaine canes: white this is like gum [Arabicke] and brittle betweene a mans teeth. The graines hereof when they are at the biggeſt, exceed not a filberd nut, and ſerve only for Phyſick. In the realme of Ariana (which confineth and boundeth upon the Indians) there is a certaine thornie plant, ſo full of ſharpe pricks, that it is comberous to them who come about it; which yeeldeth a pretious liquor iſſuing out thereof, like unto Myrrhe. In the ſame province there groweth a peſtilent venomous ſhrub called Rhaphanus, bearing leaves like the Bay tree, which with their fragrant ſmell traine horſes thither to eat thereof; but they are ſo good for them, that they left not *Alexander* the Great ſcarſe one horſe of all his Cavallerie, they dyed ſo faſt of that food at his firſt entrance into the countrey. The like accident befell unto him alſo among the Gedroſians. In like manner, there is another thornie plant (by report) in that region, leaved like the Laurell: the juice and liquor whereof, if it be ſprinkled or daſhed in the eyes of any living creature whatſoever, putteth them quite out and makes them blind. Moreover, they have an herb there, of a ſingular pleaſant ſavor, but covered all over it is with litle venomous ſerpents: their ſting is preſent death. *Oneſicritus* reporteth, That in the vales of Hircania there be trees like figtrees, which the Hircanians call Occhi, out of which there diſtilleth or droppeth hony every morning for the ſpace of two hours.

* White Sugar candie.

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Chap. ix. *Of Bdellium: and the trees growing by the Perſian gulfe.*

NEare to theſe parts lyeth Bactriana, wherein is the moſt excellent Bdellium. The tree that beareth it is blacke, of the bignes of an Olive, with leaves like an Oke; and the fruit reſembleth

A bleth wild figs, and is of the ſame nature. The gum thereof, ſome call Brochos; others, Malachra: and there be againe that name it Maldacon. Howbeit, when it is blacke, and brought into roles or lumpes, they give it another name, and call it Hadrobolon. But indeed the right Bdellium when it is in the kind, ſhould be cleare, as yellow as waxe, pleaſant to ſmell unto, in the rubbing and handling fattie, in taſt bitter and nothing ſoure. Being waſhed and drenched with wine (as they uſe it in ſacrifices) it is more odoriferous. There is found of it in Arabia, India, Media, and Babylon. As for that which is brought out of Media, they call it Peraticum: this is more tractable and gentle in hand, more cruſtie and bitter than the reſt. But the Indian Bdellium is the moiſter and more gummie: this is ſophiſticated with Almonds, whereas the other kinds be made counterfeit with the barke of Scordaſtus, a tree that yeeldeth the like gum. But this
B trumperie and deceit is found by the ſmell, colour, weight, taſt, and fire. And let this one word for all, ſerve as a generall rule to proove all ſuch drugs and ſpices by. The Bactrian Bdellium when it is in the fire, yeeldeth a drie and ſmokie fume, and hath many white markes in it reſembling the nailes of ones fingers: beſides, it hath his juſt poiſe and weight that it ought to have, neither more nor leſſe; for as it ſhould not be over weightie, ſo it may be too light. Commonly the price goeth after this rate, to wit, three deniers a pound.

Vpon theſe regions above-named, confineth Perſis, whereas the red ſea (which we named in our Geographie, the Perſian gulfe) floweth at certaine tides far into the land, and in theſe ſands and downes are to be ſeene divers trees of ſtraunge natures: for when the tide is paſt, you ſhall
C ſee at a low water ſome trees with their roots bare, as if they were eaten with the ſalt water; and a man cannot tell whether they were brought thither with the tide, or left in the ebbe: but ſurely the naked roots ſeeme to claſpe and take hold of the barren ſands, as if they were Polype fiſhes ſhould cling to any thing. And yet the ſame, when the ſea floweth againe, notwithſtanding they be beaten upon with the waves, ſtand faſt and ſtirre not. Againe, at ſome high water and ſpring-tide, they be covered all over with water: and by good arguments it is evident to the eye, That nouriſhed they be with the roughneſſe of the ſurging ſea-water. Their heights is wonderfull: and faſhioned they be in forme of an Arbut tree: the fruit without-forth like to Almonds, but the kernels within be writhed.

Chap. X.

D *The trees of the Iland Tylos within the Perſian ſea. Moreover, of thoſe trees that beare Woll or Cotton.*

WIthin the ſame gulfe of Perſia, there lyeth an Iland full of woods to the Eaſt ſide, even upon that coaſt which is overflowed with the tide. Every tree within, is equal in bignes to the figtree: the bloſſomes that they carrie, are ſo ſweet, as it is wonderfull and unſpeakeable: the fruit like a Lupine, yet ſo rough and prickly, as no beaſt will gladly touch it. In the higheſt part and knap of the ſame Iland, there be trees bearing Wooll, but not in ſuch ſort as thoſe of the Seres: for whereas the leaves of thoſe doe carrie a downe or cotton, theſe are altogither without and barren thereof: and but that they be ſomewhat leſſe, they might ſeeme to be
E vine leaves. Howbeit they beare a fruit at the laſt, like Gourds in faſhion, and as big as Quinces: which when they be full ripe, doe open and ſhew certaine balls within of downe: whereof they make moſt fine and coſtly linnen clothes.

Chap. XI.

Of the Goſſampine trees: as alſo of other Cotton or Bombaſe trees, whereof clothes be made. In what manner divers trees do yeeld their fruit.

THere is a leſſer Iland named Tylos, ten miles from the other, where be trees called Goſſampines, which yeeld more cotton than thoſe in the greater. King *Juba* ſaith, that this Cotton
F groweth about the braunches of the ſaid trees, and that the linnens made thereof be farre better than thoſe of the Indians. As for thoſe trees in Arabia whereof they make their linnen cloth, he affirmeth that they be called Cynæ, and have leaves like the Date tree. Thus you ſee, how the Indians be clad with trees of their own. In thoſe Ilands called Tyli, there is another tree which beareth a bloſſome much like the flower of a white Violet, or Scock-gillofre, but four times

as big, which may seeme straunge in that tract. And yet there is another Tree not unlike to G
it, howbeit fuller of leaves, and bearing a blossome like to a damaske or incarnate rose. This flower shutteth close in the night, beginneth to open in the morning at the Sun-rising, and by noone sheweth out at the full. The inhabitants have a by-word and saying among them, That it sleepes all night, and wakes in the morning. The same Island bringeth foorth Date trees, Olive trees, Vines, and among other fruits, Figges also. No trees there, doe shed their leaves: for the Island is well watered with cold and quicke springs: and besides it hath the benefite of raine. As touching Arabia, which lyeth neere and bordereth upon these Islands, the spices and odoriferous fruits that be therein, are to be treated of with distinction: for their merchandise doth consist of roots, braunches, barke, juice or liquor, gums and rosins, wood, twigs, flowers, leaves, and apple. H

Chap. xii.

Of Costus, Spike-nard, and the divers kinds of Nard.

BVt the root and leafe be of greatest price in India. And first and formost the root of Costus, biteth and burneth in the mouth; and is of a most excellent and soveraign smell: for otherwise the braunches or bodie of the shrub is good for little or nothing. In the Iland Patale (which lyeth at the verie first fosse and mouth where the river Indus falleth into the sea) there be found two kinds thereof: namely, the black; and the white, which is counted the better. A pound of Costus is held at sixteen Romane deniers. I

As touching the leafe of Nardus, it were good that wee discourse thereof at large, seeing that it is one of the principall ingredients aromaticall that goe to the making of most costly and precious ointments. The plant it selfe Nardus hath a massie, heavie, and thicke root; but short, blacke, and brittle, notwithstanding that it be fattie and oleous. Soone it vinoweth and catcheth a kind of mustines; and like unto the *Cypresse it hath a sharpe taste, rough and small leaves, but comming thicke. The head of Nardus spreadeth into certaine spikes or eares, whereby it hath a twofold use, both of spike and also of leafe; in which regard it is so famous. A second sort there is of it growing along the river Ganges, condemned altogither as good for nothing, for it hath a strong and stinking savour; whereupon it is called Ozænitis. There is an hearb growing every where called Pseudonardus, or bastard Nard, which is obtruded unto us and sold for the true K
Spikenard. A thicker leafe it hath and a broader than the other: the colour is more pallat and weake, inclining to white. Also the very root of the right Nard, for to make the better weight, is mingled with gums, with Litharge of silver, Antimonie, or the rind of Cyperus. But the good, syncere, and true Nard is known by the lightnes, red colour, sweet smell, and the taste especially: for it drieth the tongue and leaveth a pleasant relish behind it. The Spike carrieth the price of an hundred Romane deniers a pound. As touching the leaves, the diversitie thereof maketh difference also in the price: for that which hath the larger leaves, and thereupon is called Hadrosphærum, is worth thirtie deniers a pound. A second sort there is with a smaller leafe, and of a middle size, named therefore Mesosphærum: and that is bought after sixtie deniers the pound. But the best of all is that with least leaves, and carrieth the name of Microsphærum: and that L
the merchant selleth for 75 deniers the pound. What kind soever it be, the greener and newer it is, the better is it reputed, and more odoriferous, than that which hath been long kept. Yet say it be old gathered, if the colour hold and keepe well, men preferre it before the blacker, though it be new. With us in Italie, and in this part of the world, the leafe of Nardus comming from Syria, is esteemed best: next unto it the Celticke, out of Fraunce; and in the third place that of Candie, which some name Agrion, [*. the wild] others Phu: and this hath a leafe resembling Loveach or Alesanders; a stalke a cubit long, full of joynts and knots, of a weake whitish & light purple colour; the root groweth crooked, full of strings and haires hanging to it, and is much like to birds clawes or feet. As for Baccharis, it is called likewise Rustick-nard: but of it will wee speake among other flowers. All these kinds of Nardus are to be reckoned hearbs, save that only of the Indians: of which, the Celticke or French Nard, is plucked and gathered togither with the root: and for the better preparing thereof, it ought to be well washed and soked in wine, and so dried in the shade out of the sunne. Then is it made up into certaine bundels of an handfull apeece, bound up in papers, & differeth not much in goodnes from the Indian Spikenard: howbeit

* or, Cyperus.

A beit, lighter it is than that of Syria. A pound of it is worth at Rome thirteene deniers. The onely proofe and triall of all their leaves is this, That they bee not brittle, and rather ripe drie, than sere or rotten-drie, That they breake not and fall in peeces. With the Celticke or French Nard there evermore groweth another hearbe, called Hirculus, and it taketh that name of a strong and Goatish smell which it yeeldeth: besides, so like it is unto the other, that it is foisted in amongst the good, and so sold with it. Yet herein is the difference; for that this hath no stemme or stalke at all; the leaves thereof also are lesse: and last of all, the root is neither bitter in tast, nor sweet in smell.

Chap. XIII.

B *Of Asara-Bacca, Amomum, Amomis, and Cardamomum.*

ASarum or Fole-foot, called otherwise, Asara-Bacca, hath the verie properties and vertues of Nard: and therefore some have called it Wild Nard. An hearbe it is, carrying leaves like to yvie, save that they bee more round and softer: it putteth foorth a purple flower, and hath a root like unto the French Nard. The flower is full within of seeds like grape kernels, of an hote tast, and resembling wine. In shadowie mountaines it floureth twice a yeare. The best groweth in Pontus, the next to it for goodnesse is found in Phrygia: that of Illyricum is of a third ranke. The root is digged up when it beginneth to put forth leaves. They use to drie it in the Sunne: soone it will vennow and be mouldie; quickly also it waxeth old, and looseth the C strength. Of late daies there was an hearbe found in Thracia, the leaves whereof differ in nothing from the Indian Nard.

As for the grape of Amomum, which now is in use and much occupied, some say it groweth upon a wild vine in India. Others have thought, that it commeth from a shrub like Myrtle, and carieth not above a hand breadth, or foure inches in height. Plucked it is together with the root: and gently must it be laid and couched in bunches by handfuls, for if great heed bee not taken, it will soone burst and breake. The best Amomum and most commendable, is that which carrieth leaves like to those of the Pomgranate, without rivels and wrinckles, and besides, of a red colour. The next in goodnesse is that which is pale. The greene or grasse coloured is not all out so good, but the worst of all is white: and that colour commeth by age, D and long keeping. A pound of these grapes entire and whole in the cluster, is worth threescore Romane deniers. But if they bee crumbled and broken, it will cost but eight and fortie. This Amomum groweth likewise in a part of Armenia named Otene: also, in the kingdomes of Media and Pontus. It is sophisticated with the leaves of the Pomgranate, and with some other liquid gum besides, that it may hang united together, and roll round into the forme of grapes.

Now as touching that which is called Amomis, it is lesse full of veines, and nothing so sweet smelling: but harder than Amomum: wherby it appeareth, that it is either a divers plant from it, or els if it be the same, it is gathered before it be full ripe.

Cardamomum is like to these above rehearsed, both in name, and also in making and forme: E but it beareth a longer graine for seed. The manner also of gathering and cutting it downe, in Arabia, is the same. Foure kinds there be of it. The first is most greene and fattie withall: having foure sharpe corners, and if a man rub it betweene his fingers, he shall find it very tough & stubborne: and this is most esteemed of all the other. The next to it is somewhat reddish, but enclining to a whitish colour. A third sort is shorter, lesser, and blacker than the rest. Howbeit, the worst is that which hath sundrie colours, is pliable and gentle in the rubbing, and smelleth but a little. The true Cardamomum ought to come near in resemblance to Costus. And it groweth in Media. A pound of the best will cost twelve deniers.

The great affinitie or kinred rather in name, that Cinnamon hath with these spices before rehearsed, might induce me to write thereof in one suit, even in this place: but that more meet it is F to shew first the riches of Arabia, and to set downe the causes why that countrie should be surnamed Happie and Blessed. We will begin therefore with the cheefe commodities therof, namely, Frankincense and Myrrhe: and yet Myrrhe is found as well in the Troglodites countrey, as in Arabia.

Chap. xiiii.

Of Happie Arabia, that yeeldeth plentie of Frankincense.

THere is no region in the whole world that bringeth forth Frankincense, but Arabia: and yet is it not to be found in all parts thereof: but in that quarter onely of the Atramites. Now these Atramites inhabite the very heart of Arabia, and are a countie of the Sabæi. The capitall citie of the whole kingdome is called Sabota, seated upon an high mountain: from whence unto Saba, the only countrey that yeeldeth such plentie of the said incense, it is about eight daies journey. As for Saba, (which in the Greeke tongue signifieth, a secret mysterie) it regardeth the Sunne rising in Summer, or the Northeast; enclosed on every side with rockes inaccessible: and on the right hand it is defended with high cliffes and crags that beare into the sea. The soile of this territorie (by report) is reddish and inclining to white. The forrests that carie these Incense trees, lie in length twentie Schænes, and beare in breadth halfe as much. Now that which we call Schænus, according to the calculation of *Eratosthenes*, containeth fortie stadia, that is to say, five miles: howsoever some have allowed but two and thirtie stadia to every Schænus. The quarter wherein these trees doe grow, is full of high hils: howbeit, goe downe into the plaines and vallie beneath, yee shall have plentie of the same trees, which come up of their owne accord, and were never planted. The earth is fat, and standeth much upon a strong clay, as all writers do agree. Few Springs are there to be found, and those that be, are full of Nitre. There is another tract by it selfe confronting this countrey, wherein the Minæans doe inhabite: and through them there is a narrow passage, by which the frankincense is transported into other parts. These were their first neighbours that did trafficke with them for their incense, and found a vent for it: and even so they doe still at this day, whereupon the Frankincense it selfe is called of their name, Minæum. Setting this people of the Sabeans aside, there be no Arabians that see an Incense Tree from one end of the yeare to another: neither are all these permitted to have a sight of those Trees. For the common voice is, that there bee not above three thousand families which can claime and challenge by right of succession that priviledge, to gather Incense. And therefore all the race of them is called Sacred and Holy: for looke when they goe about either cutting and slitting the trees, or gathering the Incense, they must not that day come near a woman to know her carnally; nay they must not be at any funerals, or approch a dead corps, for being polluted. By which religion, and ceremonious observation, the price is raised, and the Incense is the dearer. Some say, that these people have equall libertie in commune, to goe into these woods for their commodities when they will: but others affirme, that they be divided into companies, and take their turns by yeares. As concerning the very Tree, I could never know yet the perfect description of it. We have maintained wars in Arabia, and the Romane armie hath entred a great way into that countrey. *C. Cæsar*, the adopted sonne of *Augustus*, wan great honour and glorie from thence: and yet verily, to my knowledge, there was never any Latine Author, that hath put downe in writing the forme and fashion of that Tree which carieth Incense. As for the Greeke writers, their bookes doe varie and differ in that point. Some give out, that it hath leaves like to a Peare-tree, only they be somewhat lesse: and when they come forth, they be of a grasse-greene colour. Others say that they resemble the Lentiske Tree, and are somewhat reddish. There bee againe who write, that it is the very Terebints, and none else, that giveth the Frankincense: of which opinion king *Antigonus* was, who had one of these shrubs brought unto him. King *Iuba* in those bookes which hee wrate and sent unto *C. Cæsar*, sonne to the Emperour *Augustus* (who was enflamed with an ardent desire to make a voiage into Arabia, for the great name which went thereof) saith, That the Tree which beareth Frankincense, hath a trunke or bodie writhen about, and putteth forth boughs and branches, like for all the world to the Maple of Pontus. *Item*, that it yeeldeth a juice or liquor, as doth the Almond tree: and such are seen commonly in Carmania: as also those in Ægypt which were planted by the carefull industrie of the *Ptolomees*, kings there. How ever it be, this is received for certaine, that it hath the very barke of a Bay tree: Some also have said, that the leaves be as like. And verily, such kind of Trees were they which were seene at Sardis: for the kings of Asia likewise were at the cost and labour to transplant them, & desirous to have them grow in Lydia. The Embassadours who in my time came out of Arabia to Rome, have made all that was delivered as touching these Trees, more doubtfull and uncertaine than before. A straunge matter and wonderfull indeed, considering that twigs and braunches of the Incense tree have passed betweene:

by

A by the veiw of which impes, we may judge what the Mother is: namely, even and round in the bodie, without knot or knar, and from thence she putteth out shoots.

They used in old time to gather the Incense but once a yeare; as having little vent, and small returne, and lesse occasion to sell than now adaies: but now, since every man calleth for it, they feeling the sweetnesse of the gaine, make a double vintage (as it were) of it in one yeare. The first, and indeed the kindly season, falleth about the hottest daies of the Summer, at what time as the Dog daies begin: for then they cut the Tree where they see the barke to be fullest of liquor, and whereas they perceive it to be thinnest and strut out most. They make a gash or slit onely to give more libertie: but nothing doe they pare or cut cleane away. The wound or incision is no sooner made, but out there gusheth a fat fome or froth: this soon congealeth and groweth to be hard:
B and where the place will give them leave, they receive it in a quilt or mat made of Date-tree twigs, plaited and wound one within another wicker-wise. For els where, the floore all about is paved smooth, and rammed downe hard. The former way is the better to gather the purer and clearer Frankincense: but that which falleth upon the bare ground, proveth the weightier. That which remaineth behind, and sticketh to the Tree, is pared and scraped off with knives, or such like yron tooles; and therefore no marvell if it be full of shavings of the barke. The whole wood or forrest is devided into certaine portions: and every man knoweth his owne part: nay, there is not one of them will offer wrong unto another, and encroch upon his neighbours. They need not to set any keepers for to looke unto those Trees that be cut, for no man will rob from his fellow if he might, so just and true they be in Arabia. But beleeve me, at Alexandria where Frankincense is tri-
C ed, refined, and made for sale, men cannot looke surely ynough to their shops and work-houses, but they will be robbed. The workman that is emploied about it, is all naked, save that hee hath a paire of trouses or breeches to cover his shame, and those are sowed up and sealed too, for feare of thrusting any into them. Hood-winked he is sure ynough for seeing the way too & fro, and hath a thicke coife or maske about his head, for doubt that hee should bestow any in mouth or eares. And when these workmen bee let forth againe, they be stripped starke naked, as ever they were borne, and sent away. Whereby we may see, that the rigour of justice cannot strike so great feare into our theeves here, and make us so secure to keepe our owne, as among the Sabæans, the bare reverence and religion of those woods. But to returne againe to our former cuts. That Incense which was let out in Summer, they leave there under the Tree untill the Autumne, and then
D they come and gather it. And this is most pure, cleane, and white.

A second Vintage or gathering, there is in the Spring: against which time, they cut the bark before in the Winter, and suffer it to run out untill the Spring. This commeth forth red, and is nothing comparable to the former. The better is called Carpheotum, the worse, Dathiathum. Moreover, some say, that the gum which issueth out of young trees is the whiter: but that which commeth from the old, is more odoriferous. There be others also of opinion, That the better Incense is in the Islands. But king *Iuba* doth avouch constantly, that there is none at all in the Islands. That which is round like unto a drop, and so hangeth, we call the male Incense; whereas in other things lightly wee name no male, but where there is a female. But folke have a religious ceremonie in it, not to use so much as the tearme of the other sexe, in giving denomination to
E Frankincense. Howbeit, some say, that it was called the Male, for a resemblance that it hath to cullions or stones. In very truth, that is held for the cheese and best simply, which is fashioned like to the nipples or teats that give milke, standing thicke one by another: to wit, when the former drop that destilled, hath another presently followeth after, and so consequently more unto them, and they all seeme to hang together like wigs. I read, that every one of these were wont to make a good handfull, namely, when men were not so hastie and eager to carie it away, but would give it time and leasure to drop softly. When it is gathered in this sort, the Greekes use to call it Stagonias and Atomus: but the lesser gobbets they name Orobias. As for the small crums or fragments which fall off by shaking, we called Manna, [*i. Thuris.*] And yet there be found at this day drops of Incense that weigh the third part of a pound, that is to say, about *39 Romane de- *or rather 33, and a scruple.
F niers. It happened on a time, that king *Alexander* the Great being then but a very child, made no spare of Incense, but cast still upon the altar without all measure when hee offered sacrifice. Whereupon, *Leontides* his tutor and schoolemaister, by way of a light reproofe, said unto him thus, Sir you should in that manner burne Incense when you have once conquered those nations where there groweth Incense. Which rebuke and checke of his tooke so deepe a print in *Alex-*

anders

anders heart, and ſo well he caried it in memorie, that after he had indeed made conqueſt of Arabia, he ſent unto the ſaid *Leonides* his Tutor, a ſhip full fraught and charged with Incenſe, willing him not to ſpare, but liberally to beſtow upon the gods when he ſacrificed. To returne again unto our hiſtorie. When the Incenſe is gathered (as is beforeſaid) conveighed it is to Sabota, upon Cammels backes; and at one gate (ſet open for that purpoſe) is it brought into the citie. For by law forbidden it is upon paine of death, to take any other way. Which done, the Prieſts there of the god whom they call *Sabis*, take the diſme or tenth part of the Incenſe, by meaſure, and not by weight, and ſet it apart for that god. Neither is it lawfull for any man to buy or ſell, before that dutie be paied: which ſerveth afterwards to ſupport certain publicke expenſes of the citie. For all ſtrangers and travellers within the compaſſe of certaine daies journey, if they come to the citie, are courteouſly received, and liberally entertained at the coſt and charges of the ſaid god *Sabis*. Caried forth of the countrey it cannot be, but through the Gebanites: and therefore there is a cuſtome paied unto their king. The head citie of that kingdome, Thomna, is from Gaza (the next port-towne in Iudæa toward our coaſt) ſeven and twentie miles foureſcore times told: and this way is devided into threeſcore and two daies journies by Cammels. Moreover, beſides the tyth beforeſaid, there be certaine meaſures beſtowed upon the Prieſts to their owne uſe: & others likewiſe to the kings Secretaries and Scribes. And not onely theſe have a ſhare, but alſo the Keepers, Sextons, and Wardens of the temple, the Squires of the bodie, the Guard and Penſioners, the kings officers, the Porters, Groomes, and other ſervitours pill and poll, and every one hath a ſnatch. Moreover, all the way as they travell: in one place they pay for their water, in another for fodder and provender, or elſe for their lodging and ſtable-roume, and every where for one thing or other they pay toll: ſo as the charge of every Camell from thence to the ſea upon our coaſt, commeth to 688 deniers: and yet we are not come to an end of paiments. For our Publicanes and cuſtomers alſo belonging unto our Empire, muſt have a fleece for their parts. And therfore a pound of the beſt Incenſe will coſt 16 deniers: of the ſecond 15: and the third 14. With us it is mingled and ſophiſticated with parcels of a white kind of Roſin which is very like unto it: but the fraud is ſoone found, by the meanes above ſpecified. The beſt Incenſe is tried and knowne by theſe markes, *viz.* If it be white, large, brittle, and eaſie to take a flame when it comes neare a coale of fire: laſt of all, if it will not abide the dent of the tooth, but flie in peeces and crumble ſooner than ſuffer the teeth to enter into it.

Chap. xv.

Of Myrrhe, and the Trees that yeeld it.

Some have written, That the Trees which beare the Myrrhe, doe grow confuſedly here and there in the ſame woods, among the Incenſe Trees: but more there are who affirme, That they grow apart by themſelves. And in truth, found they are in many quarters of Arabia, as ſhall be ſaid when we treat of the ſeverall ſpecies of Myrrhe. There is very good Myrrhe brought out of the Iſlands: and the Sabæans paſſe the ſeas, and travell as far as to the Troglodites countrey for it. There is a kind of Myrrhe tree planted by mans hand in Hort-yards, and much preferred it is before the wild that groweth in the woods. Theſe Trees love to bee raked, bared, and cleanſed about the rootes: they delight (I ſay) to have the ſuperfluous ſpurnes rid away from the root: and the more that the root is cooled, the better thriveth the Tree. The plant groweth ordinarily five cubites high, but not all that length is it ſmooth and without prickes: the bodie and trunke is hard and wrythen, thicker than the Incenſe trees: it is greateſt toward the root, and ſo ariſeth ſmaller and ſmaller, taperwiſe. Some ſay, that the barke is ſmooth and even, like unto that of the Arbute Tree: others againe affirme, that it is prickly and full of thornes. It hath a leafe like to the Olive, but more criſped and curled, and withall it is in the end ſharpe-pointed like a needle. But king *Iuba* writeth, that it beareth the leafe of Loveach or Aliſanders. There be who write, that it reſembleth the Iuniper, ſave onely that it is more rough and beſet with ſharp pricks. And ſome let not to dreame and talke, that both Myrrhe and alſo Incenſe came from one and the ſame Tree. Indeed, the Myrrhe trees are twice cut and launced in one yeare, and at the ſame ſeaſons, as well as the Incenſe trees: but the ſlit reacheth from the very root up to the boughes, if they may beare and abide it. Howbeit, before that inciſion be made, they ſweat out of themſelves a certaine liquor called Stacte, which is very good Myrrhe, and none better. As well of this

franke

franke & garden Myrrhe tree, as of the wild in the woods, the Myrrhe is better that is gathered or runneth in Summer time. There is no allowance of Myrrhe offered and given to the god *Sabis*, as there was of Incenſe, becauſe it is found in other countries. Howbeit, the king of the Gebanites hath paied unto him for toll and cuſtome, a fourth part of all that paſſeth through his kingdome. To conclude, whatſoever is bought in any market or place abroad, they put and thruſt it hard together in leather bags one with another: but the Druggiſts and Apothecaries can ſoone ſeparate the better from the worſe, and be very cunning and readie to digeſt them accordidg to the markes that they goe by, as well of ſmell as fattineſſe.

Chap. xvi.

Diverſe kinds of Myrrhe. The nature, vertue, and price thereof.

MAny ſorts there be of Myrrhe. Of all the wild kinds, the firſt is that which groweth in the Troglodites countrey. Next to it is Minæa, in which ranke you may place Attramittica and Auſaritis, which both come out of the realme of the Gebanites. In a third place reckon that which they call Dianitis. A fourth ſort is gotten here and there in all parts, and hudled together. In the fift raunge is Sembracena, ſo called of a citie within the kingdome of the Sabæans, and is next unto the ſea. The ſixt they name Duſaritis. Beſides all theſe, a white Myrrhe there is, found but in one place, which ordinarily is brought to the citie Meſſalum, & there ſold. The Trogloditike Myrrhe they chuſe by the fattineſſe thereof, and for that it ſeemeth to the eie greener: it ſheweth alſo foule, rude, and illfavoured: but ſharper it is, and more biting in mouth than the reſt. The Sembracene hath none of theſe faults, but is pleaſant and chearefull to ſee to: howbeit, of ſmall operation & ſtrength. But to ſpeake in a word, & once for all, the beſt Myrrhe is knowne by little peeces which are not round: and when they grow together, they yeeld a certaine whitiſh liquor which iſſueth and reſolveth from them, and if a man breake them into morſels, it hath white veines reſembling mens nailes, and in taſt is ſomewhat bitter. A ſecond degree there is in goodneſſe, when it ſheweth ſundrie colours within. And the worſt of all is that which within-forth is black; and the ſame is worſe yet, if it be as blacke without. As touching the price of Myrrhe, it altereth as it is more or leſſe in requeſt, and according as it meeteth with many or few chapmen. For yee ſhall have Stacte ſold ſometimes for ſixe deniers a pound, and otherwhiles for fiftie. The greateſt price of the garden frank-Myrrhe, or that which is ſet by mans hand, is two and twentie deniers. The red called Erythrea, is never above ſixteene: and this is taken to bee the true Myrrhe of Arabia. The kernell within of the Trogloditike Myrrhe, will coſt thirteen deniers the pound. But that which they call *Odoraria, is ſold for foureteen. All kinds of Myrrhe be mingled and ſophiſticated with peeces of Maſticke comming from the Lentiske, and with other gums: *Item*, with Elaterium, [*i.* the juice of the wild Cowcumber] to make it more bitter: as alſo (that it might ſeem weightier) with the ſome of lead, or litharge of ſilver. And ſurely ſetting aſide theſe two corruptions, all the reſt are found by the very taſt of the gum, which alſo will ſticke unto the teeth in the chewing. But the craftieſt & fineſt deviſe to counterfeit it, is with Indian Myrrhe, which is gathered there from a certaine thornie plant that groweth among them. This is the only thing that India bringeth forth worſe than other countries. And verily ſo bad it is, that ſoone it may bee knowne from other Myrrhes.

*or, *Adoraria*, *i.* θυμιατικὸν, which ſerveth for perfuming in temples.

Chap. xviii.

Of Maſticke, Ladanum, and Bruta of Enhamus, Strobus, and Styrax.

FRom the foreſaid Myrrhe therefore laſt named, let us for the affinitie paſſe to Maſtick: which commeth alſo of another thornie tree in India, and likewiſe in Arabia, which they call Lama. Howbeit, of Maſticke there bee two ſorts: for both in Aſia, and alſo in Greece, there is found an hearb, which directly from the root putteth forth leaves: and it beareth a bur or thiſtlehead like an apple, full of ſeeds. Cut the top of this hearbe, and there will iſſue forth a certain liquor, ſo like unto the right & true Maſticke, that hardly a man ſhall know the one from the other. Over and beſides, there is a third ſort of Maſticke in Pontus, more like to Bitumen. Howbeit, the very beſt Maſticke is brought out of the Iſland Chios, and the ſame is white, and a pound of it is worth at Rome twentie deniers: but the blacke yee ſhall buy for twelve. As for the Chian Maſticke,

sticke, it issueth forth as a gum out of the Lentiske tree. Mingled this is also, like as Frankincense, with Rosin. G

Moreover, Arabia doth glorie even yet in their Ladanum. And many have reported, that this commeth by fortune or chaunce, and by occasion of violence and wrong done to an odoriferous plant that yeeldeth it in this manner following. The Goats they say (harmefull creatures as they be to all plants, but more desirous to be brousing of sweet and aromaticall shrubs, as if they knew how precious they were) use to crop the sprouts and twigs of this plant which beareth Mastick; which being so full of this odoriferous and sweet liquor, that they swell againe, doe drop and distill the said moisture, which the shrewd & unhappie beast catcheth among the shag long haires of his beard. Now by reason of dust getting among, it baltereth and cluttereth into knots and bals, and so is concocted into a certaine consistence, in the Sunne. And hereupon it is, that H in Ladanum are found Goats haires. But this happeneth by their saying, in no other place but among the Nabatæans in the frontiers of Arabia toward Syria. The later moderne writers call the plant which yeeldeth Ladanum, Strobos: and they affirme, That in the forrests of Arabia where these doe grow, the boughes are much broken by the brousing of these Goats, and so the juice and liquor sticketh to their lockes and beards. But the true Ladanum (say they) is peculiar to the Iland Cyprus (for, give me leave I pray you, to speake by the way of every kind of spice and aromaticall drugs, and not strictly to keepe and observe the order and consequence of places where they be found.) And, by report, after the same manner as this Ladanum in Arabia; there hangeth and cleaveth to the beards and shag-haired legs and flankes of the Goats there also, a certaine grease and fattinesse called Oesypus: but, according to them, it must bee gotten, when they crop off the floures and leaves of the hearbe Cistus, in a morning for their breakfast, at what I time as the Iland Cyprus standeth all with a dew. Now when the morning mist is dispatched by the heat of the Sunne, there gathereth dust among these moist and wet haires of theirs, and sticketh too: and then the Islanders come and comb from their beards and flankes, that which they call Ladanum. Some call that plant in Cyprus whereof it is made, Ledon: and in truth thereof it taketh the name of Ledanum, among them. For by their report this hearbe hath a fattie substance settling upon it, and the peasants of the countrey roll the hearbes together into bals or rundles with small cords, and so make up those little lumpes which ye see. Whereby we may perceive, that as well in Arabia as Cyprus, there bee two kinds of Ladanum: the one mixed with earth, and naturall of it selfe: the other brought into bals and artificiall. The earthie is brittle and will crumble: the Artificiall is tough, clammie, and will cleave to ones fingers. Moreover, it is said K that there be certaine shrubs in Carmania that beare Ladanum, as also about Ægypt, by occasion of plants thither brought by the *Ptolomæes*, kings of Ægypt: or, as some say, it is the Incense tree that bringeth it forth: and is gathered after the manner of a gum, issuing out of the tree by incision made in the barke, and is received in Goat skins. The best Ladanum is worth fortie Asses a pound. Sophisticated it is with Myrtle berries, and with other filth of beasts. The good Ladanum indeed, which is of it selfe without other mixture, ought to have a wild and savage smell with it, as if it came out of a wildernesse. Greenish it is, and drie to see to: but handle it never so little, and presently it doth relent and waxe soft: set it on fire, and it burneth bright and cleare, and then it casteth a sweet and pleasant odour. But all that is counterfeit and mixed with Myrtle ber- L ries, may soone be known, for they will crackle in the fire. Besides, the true Ladanum hath rather stonie grit comming from the rockes, mingled with it, than dust.

In Arabia, the Olive tree also hath a kind of liquor which issueth out of it: and thereof is compounded a certaine soveraigne salve, named of the Greekes Enhæmon, which is singular good to draw up wounds, and to heale them cleane. In the maritime parts and sea-coasts, the said Olive trees at some tides are overflowed with the waves. Yet receive the Olive berries no hurt thereby: notwithstanding it bee certaine, that the sea doth leave salt upon the leaves. Thus you see what bee the peculiar commodities as touching trees, proper unto Arabia. True it is, that it hath others besides: but because they bee found elsewhere, and knowne to bee better in other places than in Arabia, I will treat of them in their course and ranke, when it com- M meth. And yet Arabia it selfe, as fruitfull and happie as it is in this behalfe, is wonderous eager to seeke after forraine spices, and send for them into straunge countries. So soone are men glutted, and have their fill of their owne: and so greedie and desirous be they of other countries commodities.

They

A They ſend therefore as far as the Helymæans, for a tree named Bruta, like to a ſpreading Cypreſſe, having boughes covered with a whitiſh barke, caſting a pleaſant ſmelling perfume when it burneth, and highly commended in the chronicles and hiſtorie of *Claudius Cæſar* for ſtraunge vertues and wonderfull properties. For he writeth, That the Parthians uſe to put the leaves thereof in their drinke, for to give it a good taſt and odoriferous ſmell. The odour thereof reſembleth the Cædar very much: and the perfume is a ſingular remedie againſt the ſtinking and noiſome fumes of other wood. It groweth beyond the great channell of the river Tigris, called Paſitigris, upon the mount Zagrus neare unto the citie Citaca.

They ſend moreover to the Carmanians for another tree called Strobos, and all to make ſweet perfumes: but firſt they infuſe the wood thereof in Date-wine, and then burne it. This is an B excellent perfume: for it will fill the whole houſe, riſing up to the chambers aloft to the arched ſeelings of the rouſe, and returning downe againe to the very floore and ground beneath, moſt pleaſantly. But it ſtuffeth a mans head, howbeit without any paine or ach at all. With this perfume they procure ſleepe to ſick perſons. And for the traffick of this commoditie, the merchants meet at the citie Carras, where they keepe an ordinarie faire or mart; and from thence they went cuſtomably to Gabba, twentie daies journey off, where they were wont to have a vent for their merchandiſe, and to make returne: and ſo forward into Paleſtine of Syria. But afterwards (as K. *Iuba* ſaith) they began to goe to Charace, and to the kingdome of the Parthians, for the ſame purpoſe. For mine owne part, I thinke rather with *Herodotus*, That the Arabians tranſported theſe odours and ſpices to the Perſians firſt, before that they went therewith either into Syria or C Ægypt: and I ground upon the teſtimony of *Herodotus*, who affirmeth, That the Arabians paid every yeare unto the KK. of Perſia the weight of a talent in Frankincenſe, for tribute

Out of Syria they bring backe Storax, with the acrimonie & hot ſmell whereof, being burnt upon their herths, they put by and drive away the loathſomneſſe of their owne odors, wherwith they are cloyed: for the Arabians uſe no other fuell at all for their fires, but ſweet wood. As for the Sabæans, they ſeeth their meats in the kitchin, ſome with the wood of the Incenſe tree, and others with that of Myrrhe: inſomuch as both in citie and countrey their houſes bee full of the ſmoke and ſmell thereof, as if it came from the ſacrifice upon the altars. For to qualifie therefore this ordinarie ſent of Myrrhe and Frankincenſe wherewith they are ſtuffed, they perfume their houſes with Storax, which they burne in Goats skins. Loe, how there is no pleaſure whatſoever, D but breedeth lothſomneſſe, if a man continue long to it. The ſame Storax they uſe to burne for the chaſing away of Serpents, which in thoſe forreſts of ſweet trees, are moſt rife and common.

Chap. xviii.

Of the felicitie of Arabia.

NEither Cinamon nor Caſia doe grow in Arabia, and yet is it named Happie: unworthie countrey as it is, for that ſurname, in that it taketh it ſelfe beholden to the gods above therefore, whereas indeed they have greater cauſe to thanke the infernall ſpirits beneath. For what hath made Arabia bleſſed, rich, and happie, but the ſuperfluous expenſe that men be E at, in funerals? employing thoſe ſweet odors to burne the bodies of the dead, which they knew by good right were due unto the gods. And verily it is conſtantly affirmed by them who are acquainted well with the world, and know what belongeth to theſe matters, That there commeth not ſo much Incenſe of one whole yeeres encreaſe in Saba, as the Emperour *Nero* ſpent in one day, when he burnt the corps of his wife *Poppea*. Caſt then, how many funerals every yeere after were made throughout the world: what heapes of odours have been beſtowed in the honour of dead bodies: whereas we offer unto the gods by crums and graines onely. And yet when as men made ſupplication unto them with the oblation of a little cake made of ſalt and meale, and no more; they were no leſſe propitious and mercifull, nay they were more gratious and favourable a great deale, as may appeare by hiſtories. But to returne againe to Arabia, the Sea enricheth it F more than the land, by occaſion of the orient pearles that it yeeldeth and ſendeth unto us. And ſurely our pleaſures, our delights, and our women togither, are ſo coſtly unto us, that there is not a yeare goeth over our heads, but what in pearles, perfumes, and ſilkes; India, the Seres, and that demy-Iland of Arabia, ſtandeth us at the leaſt in an hundred millions of Seſterces, and ſo much fetch they from us in good money, within the compaſſe of our Empire. But of all this maſſe of

Spice

Spice and Odors, how much (I pray you) commeth to the ſervice of the cœleſtiall gods, in compariſon of that which is burnt at funerals, to the ſpirits infernall? G

Chap. xix.

Of Cinamon, and the wood thereof called Xylocinnamomum. Alſo of Canell or Caſia.

FAbulous antiquitie, and the prince of lyers *Herodotus*, have reported, That in that tract where *Bacchus* was nouriſhed, Cinamon and Canell either fell from the neſts of certaine foules, and principally of the Phœnix, through the weight of the veniſon and fleſh which they had preyed upon and brought thither where as they builded in high rockes and trees; or H els was driven and beaten downe, by arrowes headed with lead. Alſo that Canell or Caſia was gotten from about certaine mariſhes, guarded and kept with a kind of cruell Bats, armed with terrible and dreadfull tallons, and with certaine flying Pen-dragons. And all theſe deviſes were invented onely to enhaunce the price of theſe drugs. And this tale is told another way, namely, That in thoſe parts where Canell and Cinamon grow (which is a country in manner of a demy-Iland, much environed with the ſea) by the reflection of the beames of the Noon-ſun, a world of odoriferous ſmels is caſt from thence, in ſuch ſort, that a man may feele the ſent at one time of all the aromaticall drugs as it were met togither, and ſending a moſt fragrant and pleaſant ſavour farre and neare: and that *Alexander* the Great ſailing with his fleet, by the very ſmell alone diſcovered Arabia a great way into the maine ſea. Lies all, both the one and the other: for Ci- I namome, or Cinamon, call it whether you will, groweth in Æthiopia, a countrey neare unto the Troglodites, who by mutuall marriages are linked togither in great affinitie. And in very truth, the Æthiopians buy up all the Cinamon they can of their neighbours, and tranſport it into other ſtraunge countries over the vaſt Ocean, in ſmall punts or boats, neither ruled with helme and rudder, nor directed too and fro with ores, ne yet caried with ſailes or any ſuch means of navigation: one man alone ſhall you ſee there in a boat, armed and furniſhed with boldnes only in ſtead of all, to hazard himſelfe and his goods in the ſurging ſea. Theſe fellowes, of all times of the yeere, take the dead of the winter, and then (to chuſe) they will venter to croſſe the ſeas for their voyage, when the Southeaſt winds are aloft and blow luſtily. Theſe winds ſet them forward in a ſtreight and direct courſe through the gulfes; and after they have doubled the point of Ar- K geſte, and coaſted along, bring them into the famous port or haven-towne of the Gebanites, called Ocila. And albeit this voiage be long and dangerous (for the merchants hardly can return in five yeeres, and many of them miſcarrie by the way) yet by report, they are nothing diſmaied and daunted therewith, but willingly adventure ſtill. And beeing at Ocila, what thinke you doe they exchaunge for, and wherewith fraight they their veſſels back againe homeward? even with glaſſes, veſſels of copper and braſſe, fine cloth, buckles, claſpes, and pincers, bracelets and carcanets, with pendant jewels: ſo as a man would verily thinke, that this traffick were maintained and the voiages enterpriſed under the credit and for the pleaſure of womankind eſpecially. Now as touching the plant that beareth Cinnamon, the talleſt is not above two cubits high above-ground, nor the loweſt under one hand-breadth or foure inches: in compaſſe about foure fingers L thicke: immediatly from the earth it putteth forth twigs, and is full of braunches of ſixe fingers length, but it looketh as if it were drie and withered: whiles it is greene it yeeldeth no ſmell at all: and the leafe reſembleth Origan: it loveth drought, for in rainie weather it is leſſe fruitfull; and yet it is of this nature, To be cut as a coppis. It will grow verily in plaines, but gladly it would lodge among the thickeſt rough of buſhes, greeves, and bryers that are to be found: ſo as men have much adoe to come by it and to gather it: but never is it cut or cropped without eſpeciall permiſſion of a certain god, which they take to be *Iupiter*; and this patron of the Cinamon tree, they call *Aſſabinus*. To obtaine leave and licenſe ſo to do, they are glad to ſacrifice the inwards of 44 Kine or Oxen, Goats alſo and Rams: and when they have all done, yet permitted they be not to goe about this buſineſſe either before the Sunriſing, or after his ſetting. Now when theſe M twigs & branches be cut, the Sacrificer or Prieſt divideth & parteth them with a javelin, and ſetteth by one portion for the god aboveſaid: the reſt doth the merchant put up & beſtow in paniers for the purpoſe. This manner of diviſion is otherwiſe reported; namely, That the whole heap is caſt into three parts, whereof the Sunne hath one for his ſhare: but they draw lots firſt for every

one

A one of theſe three ſeverall bundles or parcels of Cinamon ſtickes; and that which falleth to the Sun, is let alone and left behind: but of the owne accord it catcheth a light fire and burneth. The beſt Cinamon is thought to be that which groweth about the ſlendereſt ſticks, for the length of an handbredth from the upper end. The ſecond ſort in goodnes, is that which is next it and ſomwhat lower, but it beareth not full ſo much as an hand-breadth; and ſo conſequently in order by degrees downward: for the worſt and of leaſt price is that which is neereſt to the root, becauſe there is leaſt barke, the principall and chiefe thing required in Cinamon: which is the cauſe that the twigs in the tree top are preferred before the reſt, for that in them there is moſt barke. As for the very wood it ſelfe, which is called Xylocinamomum, there is no reckoning made of it, becauſe of the acrimonie and ſharpeneſſe which it hath, reſembling Origan. A pound thereof is

B worth 20 deniers. Of Cinamon, there be (according to ſome) two kinds; to wit, the whiter, and the blacker. In times paſt, the white was in more requeſt; but now adaies the black is moſt ſet by: yea and that of divers colours, is better eſteemed than the white. But the trueſt marke indeed to chuſe the beſt, is to ſee that it be not rough, and that it crumble not quickly if one peece be rubbed againſt another. That which is tender and ſoft, and hath beſides a white barke, is not regarded at all, but condemned for the worſt. Moreover, this is to be noted, that the King only of the Gebanites, ſetteth the price and ſale of Cinamon: he it is that ſelleth it in open market according as it is by him taxed. In old time, a pound of it was ſold for 1000 deniers: and this price afterward roſe higher by one half, by reaſon that the forreſts of Cinamon were (as men ſay) burnt by the barbarous Troglodites their neighbours, in their furious wrath. Now why it ſhould be ſo

C deere, no man certainely knoweth; whether it were through the great rich merchants, who ingroſſed all into their hands by way of monopoly, or by ſome ſuch caſualtie and chaunce of fire aforeſaid. But true it is and well knowne by that we find in divers writers, That there be ſuch hot Southerne winds blowing in thoſe parts, that in ſummer many times they ſet the woods on fire. *Veſpaſian Auguſtus* the Emperor, was the firſt that dedicated in the temples of the Capitoll and goddeſſe *Peace*, guirlands and chaplets of Cinamon, encloſed within fine poliſhed gold. In that temple which the Empreſſe *Auguſta* cauſed to be built in the pallace upon mount Palatine, for the honour of *Auguſtus Cæſar* late Emperor her husband, I have my ſelfe ſeene a Cinamon root of great weight, ſet in a cup of gold, which yearely did put forth certaine drops that congealed into hard graines. That monument remained there to be ſeene, untill the temple and all was con-

D ſumed by fire.

As concerning Caſia or Canell, a plant it is, which groweth neare to the plains from whence the Cinamon commeth; but it loveth to live upon mountaines, and beareth a bigger and rounder wood in the braunches than the Cinamon; and hath a thin rind or skin, more truly than a barke: and the ſlenderer that the ſame is and lighter, the more reckoning is made of it; cleane contrarie to the Cinamon. This ſhrub that beareth Caſia, groweth to the height of three cubits: & three colors it carrieth: for when it commeth up firſt, for a foot from the root, it is white: then, as it ſhooteth halfe a foot higher, it waxeth red: but as it riſeth farther, it is blackiſh: and this part is held for the beſt: and ſo the next to it, in a degree lower: but the white is of no regard at all: and therefore they never cut the twigs and braunches neare the root, nor above two cubits

E in length. And when they have cut them in this manner, they preſently ſow them up in greene skins of fourfooted beaſts, killed new and freſh for that purpoſe, that of their corruption and putrefaction there might breed certaine worms, to eat out the wood within the barke, & ſo make it hollow; for the barke is ſo bitter, that the worme will not touch it. The neweſt and freſheſt Canell, is reputed beſt, and that which hath a moſt delicate ſmell; very hot in the mouth, and burning the tongue, rather than gently warming it without any great biting. Such Canell is of a purple colour, and very light in hand; which ſeeming much to the eye, yet weigheth little: beſides, the pipes be but ſhort, and the outward rind or coat is not brittle and eaſie to fall in peeces. This elect and choiſe Canell, the barbarous people call Lacta. Another ſort there is, named Balſamodes, becauſe it hath a ſmell reſembling Balme: bitter it is in the mouth, and there-

F fore of more uſe in Phyſicke; like as the blacke is moſt employed in ſweet perfumes and oyntments. There is no druggs that varieth more in price than the Canell: for whereas the beſt will coſt fiftie deniers Romane a pound; all the reſt a man may buy for five.

G

Chap. xx.

❧ *Of Isocinnamon, Cancamum, and Tarum.*

THe huckſters and regraters that buy & ſell again, have another kind, which they call Daphnoides, & they ſurname it Iſo-cinnamon: and ſurely they hold it at 300 deniers the pound. Mingled it is and made counterfeit with Storax: with the ſmalleſt and tendereſt braunches alſo of Lawrell, for the likenes that it hath to the barke thereof. Moreover, it is ſet and planted in our part of the world here in Italie: alſo in the utmoſt marches and confines of our Empire, along where the river Rhene runneth, it liveth, being ſet neare unto Bee-hives. Howbeit, becauſe it wanteth the parching heat of the Sunne, it is nothing ſo deepe coloured: and thereupon alſo H it commeth ſhort of the ſmell that the other hath. Out of the regions which bound upon thoſe parts where Caſia and Cinamon doth grow, there are brought over unto us two other Spices, called Cancamum and Tarum; but by the way of the Troglodyte Nabathæans: who onely of the auncient Nabathæans, there ſetled and remained.

Chap. xxi.

❧ *Of Serichatum, Gabalium, or Myrobalanum, [i. Ben.]*

IN the ſame countrey, the Arabians come charged alſo with Serichatum and Gabalium: but they make an hand with it among themſelves, and ſpend it quite: in ſuch ſort, as their druggs I are knowne only in name to us in this part of the world, albeit they grow togither with Cinnamon and Caſia. And yet otherwhiles there is Serichatum brought unto us, which ſome perfumers uſe to put into the compoſition of ointments. And a pound of it is commonly exchanged for ſix deniers.

As for Myrobalanon, [*i.* Behen] it groweth ordinarily in the regions of the Troglodytes, about Thebais, and that part of Arabia which divideth Iurie from Ægypt: a drugge that Nature hath brought forth onely for ointment, as the very name giveth it. Whereby it appeareth alſo, that it is a very nut of a certaine tree, which beareth leaves like to Heliotropium: whereof we will ſpeake among other hearbs. The fruit that this plant beareth, is about the bignes of a filberd nut. That which groweth in Arabia, and yet called Syriaca, is white: but contrariwiſe that about The- K bais, is blacke. The former of theſe two, is commended for the goodnes of the oile which is preſſed out of it: but the Thebaicke Ben is in greater requeſt for the plentie that it yeeldeth. As for the Troglodyticke, it is the worſt of all, and the cheapeſt. And yet ſome there be, who prefer the Æthiopian Ben before all other. The Nut or fruit thereof, is blacke and fat, with a ſmall and ſlender kernell within: howbeit the liquor preſſed forth of it, is more odoriferous: and it groweth in champion countries and plains. It is affirmed moreover, that the Ægyptian Ben is more oleous and fat, having a thicker ſhell, and the ſame red. And albeit that it grow in mariſh grounds, yet it is a ſhorter plant and more drie than the others. But contrariwiſe they ſay, that the Arabicke is greene of colour, and thinner in ſubſtance: and for that it groweth upon the mountaines, it is more maſſie and weightie. But the beſt ſimply by many degrees, is that Ben which is called Pe- L træa, comming from about the towne aboveſaid; with a blackiſh rind, and white kernell. Now the Perfumers and Apothecaries, doe preſſe onely the huskes and ſhells; but the Phyſicians extract an oile out of the verie kernels, which as they ſtampe, they poure hot water ever and anon unto it, by little and little.

Chap. xxii.

❧ *Of Phœnicobalanus, Calamus odoratus, and Squinanth.*

THe Date in Ægypt, called Adipſos, hath the like uſe in ointments, and is next in requeſt for ſuch odoriferous compoſitions, as the Myrabalanus or Ben aforenamed. Greene it is in M colour, it ſmelleth like unto a Quince, and hath no woodie ſtone within. But to ſerve for thoſe purpoſes above recited, it muſt be gathered ſomewhat before that it beginneth to ripen. That which is left behind ungathered, is called Phœnicobalanus: this waxeth black, and maketh them drunke that eat thereof. As for Myrobalanus, or Ben, it is worth two Romane deniers a pound.

A pound. The occupiers and shopkeepers call the very setling and grounds of their ointment and compositions, by the name of Myrobalanon.

Moreover, within Arabia there groweth also the sweet Calamus, which is common to the Indians and Syrians likewise. That of Syria passeth all the rest, and commeth up in a tract of that countrey, distant from the coast of our Sea fiftie Stadia. Betweene mount Libanon, and another mountaine of no account [for it is not Antilibanon as some have thought] in a little vale beneath neare unto a lake, the marshes and flats whereof are drie in Summer for the space of thirtie Stadia, there grow both sweet Calamus, and also Squinanth or Juncus Odoratus, [i. the Sweet-rush.] For let us speak also in this place of the said Scænanth: & although it be but a rush, and another booke is appointed for the treatise and historie of such Hearbes, yet because wee
B handle the *Species* that goe to the composition of sweet Perfumes, Pomanders, and Ointments, I cannot passe it over. Well then, neither the one nor the other of these twaine, differ in sight from the rest of that kind. But Calamus is the better of the twaine, and hath a more pleasant smell; for a man may wind the sent of it presently a great way off: besides, it is softer in hand: and better is that which is lesse brittle, and breaketh in long spils and shivers, rather than knappeth off like a Radish root. Within the pipe of this reed, there lieth a certain matter like unto a Spiders web, which the Apothecaries call the flower of it: and that Calamus is counted the better, which hath more in it of these flowers. There is another marke also of good Calamus, namely if it be blacke: and yet in some place, they make no reckoning of the blacke Calamus. But in a word, the shorter and thicker that the reed is, the better is the Calamus: and the same is more
C supple and pliable when a man would breake it. As for Calamus, it is worth eleven deniers the pound: but Squinanth is sold for fifteene. Moreover, some say that there is a sweet rush or Squinanth found in Campania. And now are wee gone from those lands that coast upon the deepe Ocean, and come to those that confront and lie upon our Mediteranean seas.

Chap. xxiii.

Of Hammoniacum, and Spagnum.

D To begin withall, in the sands of those parts of Affricke which lie under Æthiopia, there is a liquor distilleth, called in Greeke *Hammoniacum*, of *Hammon*, which signifieth Sand, and the Oracle of *Iupiter Hammon*: for neare unto the temple where the said Oracle returneth Answers, there grow certaine trees within the sands, which they call Metopia, from which, Hammoniacum droppeth in manner of a rosin or gum: and of it there be two kinds: the one is named Thrauston, like unto the male or better Frankincense, and is most esteemed: the other is fat and full of rosin, and they call it Phyrama. The manner to sophisticate Hammoniacum, is with sand, to make men beleeve that it grew among the sands, & gathered it in the growing and comming up: and therefore the good Ammoniacum is knowne when it is in least morcels, and those very cleare. The price of the best is after fortie asses the pound.

Beneath these quarters, and within the province Cyrenaica, there is found a passing sweet Mosse, called Sphagnos; and of some Bryon [aromaticum.] Of all such Mosses, this is thought
E to be the best. Next unto it, is that of Cyprus: and in a third ranke, the Mosse which groweth in Phœnicia. There is such Mosse (by report) in Ægypt, and likewise in Fraunce: whereof, for my part, I make no doubt: for they be nothing else but the grey and whitish haires that we see hang to trees, and about the oke especially, called commonly Mosse; but only that these be sweet and odoriferous. The chiefe praise is of the whitest and lightest: a second commendation belongeth to that which is red: but the black is worth nothing: neither is there any reckoning made of that which groweth in Ilands and rocks, and (to conclude) all those that smell not as Mosse should, but rather like to Dates, or the plants whereof they come.

Chap. xxiiii.

F

Of Cyprus, Aspalathus, and Marum.

There is a tree in Ægypt called Cypros, bearing leaves like to Ziziphus or the Injube tree, and a graine resembling Coriander seed, with a white flower very pleasant and sweet. These flowers be steeped and sodden in common oile: out of which is afterwards pressed medi-

cinable oile called Cyprus, or Cyprinum. A pound of it will coſt five Romane deniers. The beſt commeth from that tree which groweth upon the bankes of that river Nilus about Canopus, which is the firſt mouth where it diſchargeth it ſelfe into the ſea. The ſecond in goodnes groweth about Aſcalon a citie of Iudæa. The third in worth for ſmell and ſweetnes, is had from the Iland Cyprus. Some take this Cyprus to be the plant, which in Italy is called Liguſtrum, [*i.* Priver.]

In the ſame tract groweth Aſpalathus: a white thornie ſhrub it is, of the bigneſſe of a ſmall tree, and beareth a flower reſembling a roſe. The root of it is in requeſt for the making of ſweet perfumes and ointments. There goeth a common ſpeech, That every plant over which the rainbow is ſeene bent, will caſt the ſame ſent that Aſpalathus doth: but if it chaunce that the rainbow ſettle over Aſpalathus, then it will yeeld a ſweet ſavour incomparable, and ſuch as cannot be expreſſed. Some call it Eryſiſceptrum, others Sceptrum, ſimply. The good Aſpalathus is red, or rather of a fiery colour, maſſie and heavie in hand, with a ſmell of Caſtoreum. It is ſold for fifteene deniers the pound.

In Ægypt likewiſe there groweth Marum, but it is not ſo good as that of Lydia; for it hath greater leaves, and thoſe ſpotted with ſundrie colours; whereas the other hath little ſhort leaves, but they ſmell paſſing ſweet.

Chap. xxv.

Of Baulme, as well the liquor thereof called Opobalſamum, as the wood named Xylobalſamum. Alſo of Storax [Calamita] and Galbanum.

BVt the Baulme is that ſweet and odoriferous liquor that goeth beyond all others. The tree that yeeldeth it, Nature hath beſtowed onely upon the land of Iurie. In old time it was not to be found but in two parkes or hortyards, belonging both to the kings of Iurie: wherof the one contained not above twentie jugera or acres, the other not ſo much. The Emperours *Veſpaſians*, both father and ſon, brought one of thoſe little Balme trees to Rome, and ſhewed it openly to the whole citie. *Pompey* the Great likewiſe made proud boaſt and vaunted much, when hee ſaid, That trees alſo by him were borne in triumph. Now this Baulme tree ſerveth and doth homage, yea is tributarie with the whole nation where it groweth: but it is of a nature farre different from that which both our Latine writers, and thoſe alſo of forrein countries, have deſcribed: for more like it is to a vine than a Myrtle. It is planted by ſlips and branches, as the vine: and of late dayes bound and tyed alſo like a young vine. It ſpreadeth and filleth the hills where it is ſet, after the manner of thoſe vines in vineyards, which without any helpe of props, ſupport and beare up themſelves. Cut likewiſe it is, pruned, and cleanſed, from thoſe ſuperfluous ſhoots that it putteth out. It loveth to bee well husbanded, digged about, raked, and trimmed; and with this ordering, groweth apace, ſo as within three years it is fruitfull. It beareth a leafe much like to Rue, and continueth with a greene head all the yeare long. At the ſacking and deſtruction of Ieruſalem, the Iewes in a furious rage both againſt their owne perſons & their goods, would needs have wreaked their anger and been revenged upon the poore Baulme trees, and have ſpoiled them for ever: but the Romans on the other ſide ſtood in their defence, ſo as about this very plant, there was a cruell battaile fought. But now theſe trees are united unto the domaine of our Empire: and by order from the ſtate, are ſet and maintained: ſo as never at any time before, were they more in number, or taller of growth: howbeit the higheſt exceedeth not two cubits. And three ſorts there be of them. The firſt hath ſlender braunches and ſmall, like haires; whereupon it is called Eutheriſtos, [*i.* eaſie to be cut or lopt.] The ſecond, rough and rugged to ſee to, bowing and bending forward, full of twigs and braunches; ſweeter alſo than the other to ſmell unto, and this they name Trachy in Greeke, which is as much to ſay as Rough. The third they call Eumeces, becauſe it is higher than the reſt, and it hath beſides a ſmooth barke: this in goodnes is the ſecond; and the firſt, named Eutheriſtos, is the worſt. The fruit or ſeed that the Baulme tree beareth, reſembleth wine in taſt, of colour red, and it is not without a certaine veine of fat. The worſt part of the graine or fruit, is the lighter in weight, and the greener. It is clad with boughes and leaves thicker than the Myrtle. Now, for to draw the precious liquor out of it called Balme, inciſion ought to be made in the barke, with glaſſe-knives, with ſharpe flint ſtones, or lancets of bones. For it may not abide, that any inſtrument of yron or ſteele ſhould come neare unto the quicke; it dieth preſently if you touch the heart of it therewith: and yet the ſame will ſuffer all

ſuperfluous

A ſuperfluous boughes and branches to be cut off and pruned. But hee that launceth and maketh
inciſion, muſt guide and gage his hand very artificially in the cutting, that he go not too deepe,
nor peirce a jot farther than the barke. This feat being wrought, there iſſueth out of the wound a
juice or liquor, which they call Opobalſamum, of an excellent and ſurpaſſing ſweet ſmell: but it
commeth forth by ſmall drops: and as it thus weepeth, the teares ought to be received in wooll,
and then afterwards it is gathered and laid up in ſmall hornes. Out of which it is poured into new
earthen pots that never were occupied. This Baulme when it is freſh and new, may be likened to
Oile, in thickneſſe and conſiſtence, but in colour it is white; in time it groweth reddiſh, and hard
withall, howbeit, cleare & tranſparent, that a man may ſee through it. During the wars that *Alex-
ander* the Great waged in Iurie, it was ordinarie in a ſummers day to gather one ſpoonefull of
B this liquor, & that was all that might be done. And when the ſeaſon ſerved beſt for this purpoſe,
and that it was counted a plentifull yeare, the greater hort-yard or parke of the kings aboveſaid,
never yeelded in all above ſix gallons, and the leſſer but one: ſold it was commonly for the dou-
ble weight in ſilver. But at this day, every tree that may beare it, and hath a larger veine to abide
inciſion, is launced thrice in a ſummer time: and after that, it is lopt and ſhread. And thoſe cut-
tings are good chaffer, and ſold very well to the merchant. For being thus lopped once in five
yeares at the furtheſt, they yeeld in braunches for wood onely, eight hundred deniers. This is cal-
led Xylobalſamum, & it goeth into odoriferous compoſitions: for in default of the right Baulm
liquor, the Apothecaries make a ſhift to ſerve their turne with the wood alone, called Xylobalſa-
mum. As for the very barke, it entreth alſo into many medicinable confections: no marvell ther-
C fore if it carie ſome price. But it is the liquor onely that is ſo precious, the liquor it is which yeel-
deth that moſt fragrant ſmell; then followeth the graine or fruit in a ſecond degree, the barke in
a third, and the wood as it is laſt, ſo it hath leaſt grace and credite. Of the wood, the beſt is that
which in colour reſembleth Box, and giveth ſweeteſt ſent. But of the fruit, the greateſt graines
and the weightieſt, be moſt eſteemed; ſuch bite at the tongues end, and bee hote in the mouth.
Howbeit, this is adulterated with the ſeed of *Hypericum, that commeth from the cittie Petra. *S. Iohns woit,
But the deceit is ſoone detected and found, for that ſeed is not ſo big, ſo maſſie and full, nor ſo
long as the true graine of Baulme: beſides, it hath but a dull ſavour or none at all, and in taſt re-
ſembleth pepper. The liquor is known to be right or good, if it be oleous and fat, thin, & ſheere,
ſomewhat enclining to red; and, if in rubbing betweene your fingers, it rendereth a pleaſant ſa-
D vour. The white Baulme may bee raunged in a ſecond place of goodneſſe: the greene and the
thicke is not ſo good as it: but the blacke is worſt. For Baulme as well as Oile, will be ſtale & worſe
for the age, if it be kept too long. This is moreover obſerved, that in every inciſion, that which
flowed forth before the ſeed is ripe, is moſt precious. Over and beſides, this Baulme may bee ſo-
phiſticated with the owne ſeed: and hardly can this couſenage bee found out, but that it hath a
bitterer taſt than that which is naturall. For the good Baulme ſhould be pleaſant and delicate in
the mouth, not ſoure nor tart at all: onely in ſmell it ſhould have an harſh verdeur. Corrupted it
may be otherwiſe, with Oile of Roſes, of Cyperus, of Lentiske or Maſticke, of Ben, of Terebinth,
and Myrtles; alſo with Roſin, Galbanum, and Cyprian wax, as occaſion ſerveth, and according
as men liſt to ſophiſticate it. But the greateſt knaverie of all, is to mingle gum among it: for be-
E ing ſo handled, it will ſticke and cleave to the palme or inſide of a mans hand, nay, it will ſinke in
water to the bottome, which are two principall properties of the right Baulme. For the very pure
and perfect Baulme ought to cleave too: but when it hath gum mingled among, ſtick it will like-
wiſe, but it will gather ſoone a brittle rouſe or cruſt upon it, which quickly cracketh and breaketh.
Alſo this ſophiſtication is found out by the taſt. But in caſe there bee any trumperie of Wax or
Roſin, the fire will ſoone bewray it; for when it burneth, it will yeeld a more muddie and blacke
flame. As for the ſophiſtication made with honie, it may ſoone bee knowne: for preſently the
flies will take it, and gather thick about it. Over & beſides, put a drop of pure Baulme into warme
water, it will ſettle to the bottome of the veſſell, and congeale: but contrariwiſe, the counterfeit
Baulme, will flote and ſwim above like oile. Againe, if it have Galbanum in it, yee ſhall ſee a
F white ſtreake or circle round about it. To conclude, would you know in a word the right
Baulme indeed? It will turne milke, and cruddle it: and it will not ſtaine a cloth. In ſumme,
there is no marchandiſe and commoditie in the world, wherein there is practiſed more fraud
and deceit, than in the trafficke of Baulme. For a Sextare or wine quart of Baulme will coſt a
thouſand Roman deniers by retaile, which was bought for three hundred & no more at the hands

of the factors under the Emperour, who ſold it firſt. Whereby a man may ſee how gainefull it is G
to increaſe this liquor by ſophiſtications. As for the Baulme wood Xylobalſamum, the price of it is ſix deniers a pound.

Now it remaineth to ſpeake of Storax [Calamita] comming out of that part of Syria, which above Phœnice, confronteth & bordereth next to Iurie: and namely, about Gabala, Marathus, and the mount Caſius in Seleucia. The tree that yeeldeth this gum or liquor, is alſo named Styrax, like unto a Quince tree. It hath at firſt a rawiſh auſtere taſt, which afterwards turneth to bee more ſweet and pleaſant. There is found within a reſemblance of canes and reeds, full of this juice. Howbeit, about the riſing of the Dog ſtar there be certaine winged wormes ſettle upon the ſaid reeds, creepe in and eat away the marrow (as it were) which lay within: ſo as a man ſhall find nought left behind but a mouldie duſt or rotten powder, good for nothing. Next to this Storax H
of Syria, great account is made of that which commeth out of Piſidia, from Sidon, Cypres, and Cilicia: but leaſt reckoning is made of that which Candie ſendeth us. That which is brought from the mount Amanus in Syria, is good for the Phyſicians, but better for the perfumers and confectioners. From what nation ſoever that it commeth, the beſt Storax is that which is red, ſomewhat glutinous beſides by reaſon of the fattines. The worſt is that which hath no conſiſtence and tenacitie, but crumbleth like bran, and is ſo mouldie that it is overgrowne with a white hoarie moſſe. The pedlers and ſuch like petie marchants can skill how to ſophiſticate this drug alſo, with the roſin of cedar and gum: otherwhiles alſo with honie, or bitter almonds. But all theſe deceits are knowne by the taſt. The price of the beſt is *19* deniers a pound. There is a Storax beſides which Pamphylia doth yeeld, but drier it is, and nothing ſo full of moiſture. I

Moreover, we have from Syria out of the ſame mountaine Amanus, another kind of gum called Galbanum, iſſuing out of an hearbe like Fenell-geant, which ſome call by the name of the ſaid Roſin, others, Stagonitis. The beſt Galbanum, and which is moſt ſet by, is griſtly and cleare withall, reſembling Hammoniacum, without any ſpils of wood in it. For in that wiſe the huckſters uſe to deceive their chapmen by mingling beanes with it, or the gum Sagapenum. The right Galbanum, if you burne it, chaſeth away Serpents with the ſtrong perfume or ſmoke thereof. It is ſold for five deniers the pound: and is uſed onely in Phyſicke for medicines.

Chap. xxvi.

Of Panaces, Spondylium, and Malobathrum. K

THe ſame perfumers ſeeke alſo into the ſame Syria for Panaces growing there, and yet it is to be found likewiſe about Pſophis, a citie in Arcadia; and the fountaines from whence floweth the river Erymanthus; yea, and in Affricke beſides, and Macedonie. This Panax is an hearbe with a tall ſtalke and round tuft in the head like Fennell, and yet it is a plant by it ſelfe, growing to the height of five cubits. At the firſt it putteth out foure leaves, and afterwards ſix. They be very large and round withall, lying upon the ground: but toward the top they reſemble the leaves of an Olive: it beareth ſeed in the head hanging within certaine round tufts, as doth the Ferula. Out of the ſtalke of this hearbe there is drawne a liquor by way of inciſion, made in L
harveſt time: and likewiſe out of the root in Autumne, or the fall of the leafe. And this is called Opopanax. The beſt looketh white when it is gathered and congealed. The next in worth and weight, is that which is yellow. As for the blacke, it is of no account. The better Opopanax coſteth not above two Aſſes a pound.

Another hearbe there is of this Fennell kind, named Spondylium, ſomewhat different from the former, but in leaves only; becauſe they be leſſe than thoſe of Panax, and devided after the manner of the Plane leaves. This Spondylium groweth no where but in cold and ſhadowie places. It carieth a fruit or graine called alſo Spondylium, which reſembleth the forme of Sil or Siler Montanum, and ſerveth for no uſe but Phyſicke.

We are beholden moreover to Syria for Malobathrum. This is a tree that beareth leaves rolled up round together, and ſeeming to the eie withered. Out of which there is drawne and preſſed M
an Oile for perfumers to uſe. Ægypt is more fruitfull of this hearbe than Syria. And yet there commeth a better kind thereof from India than both thoſe countries. It is ſaid, that it groweth there in meeres and ſtanding waters ſwimming aloft, after the manner of Fen-lentils or Duckes meat, more odoriferous than Saffron: enclining to a black colour: rough in handling, and in taſt

ſalt

A salt or brackish. The white is not so well esteemed. It will soone be mouldie when it is stale. The relliſh thereof ought to resemble Nardus at the tongues end. The perfume or smell that *Malobathrum or the leafe yeeldeth when it is boiled in wine, passeth all others. It is straunge and monstrous, which is observed in the price: for it hath risen from one denier to three hundred a pound, whereas the Oile it selfe doth cost threescore. *Folium.

Chap. xxvii.

Of Oile Olive, made of greene Olives, likewise of Grape Verjuice.

B For the mixture and composition of ointments, the Oile of unripe Olives and Verjuice is very good. And verily, made it is in two kinds, and after two sorts, to wit, of the Olive and the Vine. Of the Olives, if yee would have good, they ought to be presſed whiles, they bee yet white. For if they turne colour once and be blackish, the worse is the Oile or Verjuice that commeth thereof. And such kind of Olives bee called Drupæ, namely, before they be fully ripe and good to eat, and yet have lost their colour. And herein is the difference, for that the Oile of this latter sort is greene, the other is white. Now as touching grape Verjuice, it should be made of the Vine Pſythia or Amminea, and before the canicular daies, when as the grapes be but new knit, and no bigger than cich-peaſe. The grapes (I say) must be gathered for this purpose, at the beginning before they chaunge colour, and the juice thereof ought then to be taken. Then should the Verjuice that commeth from it, be sunned: and heed must be taken in any case, that no dewes by
C night doe catch it, and therefore it would stand in couvert. Now when this juice or Verjuice is gathered, it is put up in earthen pots: and otherwhiles kept also in vessels of copper. The best grape Verjuice, is red, sharpe, and soure in taſt, drie withall and scypticke. A pound or a pint of such Verjuice is worth sixe deniers. It may bee made in another sort: namely, by punning and stamping unripe grapes in morters: drying it afterwards in the Sunne, and so made up into certaine rolls or trochisks.

Chap. xxviii.

Of Bryon and Oenanthe: of the tree Elate, and Cinnamon Cariopus.

D The mosse of the white Poplar or Aspe, which is reputed as the grape therof, is used likewise in these odoriferous and sweet compositions. The best groweth about Cnidos or Caria, in thirstie, drie, and rough places. A second sort is that which is found upon the Cedar of Lycia. To this pertaineth Oenanthæ, which is no more but the grapes of the wild vine called Labrusca. Gathered it is when it floureth, that is to say, when it smelleth best. It is dried in the shade upon a linnen sheet lying under it, and then put up into little barrels. The cheese commeth from Parapotamia: the second from Antiochia and Laodicea in Syria: and a third sort from the mountaines of Media: and this is best for medicine. Some preferre before all these, that which groweth in the Island Cypros. As for that which is made in Affricke, it is meet for Physicians
E onely, and is called Massaris. Now, the better ever is that which they gather from the white wild vine, than from the blacke. Moreover, there is another Tree which serveth for perfumes: some call it Elate, and we Abies, [i. the Firre] others Palma or the Date, and some againe Spathe. That which groweth about the sands of Affricke, where *Iupiter Hammons* temple standeth, is highly commended above the rest: and after it, that in Ægypt. Next thereto is the Syrian. This tree is odoriferous when it groweth in drie places onely: it hath in it a certaine fat liquor or Rosin, and entreth into compositions of sweet ointments, for to correct and mitigate the other oile. In Syria there is a drug which they call Cinnamum Caryopon. A juice or oile this is, presſed out of a certaine nut. This Cinnamon differeth much in forme from the stickes of true Cinnamon indeed above specified: although in smell it commeth neere unto it. A pound thereof is worth to be bought and sold 40 Asses, [*i. 2 shil. 6 d.*]
F

THE

THE XIII. BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

The Preface.

THus farre forth the woods and forrests are of estimation, in regard of the pleasure they doe unto us for perfumes and sweet odours: and in truth, if wee consider duly these aromaticall plants, admirable they be every one in their kind, even as they bee weighed apart by themselves alone. But such is the riot and superfluitie of man, that being not content with that perfection of Nature shining in those plants and trees above rehearsed, he hath not ceased to mingle and compound them, and so of them all together for to make one confused smell: and thus were our sweet ointments and precious perfumes devised, whereof we purpose to write in this booke next ensuing.

CHAP. I.

Of Ointments, Perfumes, and their compositions: and when they came into knowledge first at Rome.

AS touching the invention of Ointments, it is not well knowne who was the first that devised them. Certaine it is, that during the reigne of the Trojans, and whiles Ilium stood, men knew not what they meant: nay, they used not so much as Incense in sacrifice and divine service. The fume and smoke of the Cedar and the Citron trees only, the old Trojans were acquainted with when they offered sacrifice: their fuming and walming steame (more truly I may so tearme it, than any odoriferous perfume) they used: which they might easily come by, since they were plants growing among them, and so familiar; notwithstanding they had found out the juice of Roses, wherewith yet they would not correct the foresaid strong fumes in those daies; for that also was known to be a commendable qualitie of Oile Rosate. But the truth is, The Persians and none but they ought to be reputed the inventors of precious perfumes and odoriferous ointments. For they to palliate and hide the ranke and stinking breath which commeth by their surfet, and excesse of meats and drinkes, are forced to helpe themselves by some artificiall meanes, and therefore goe evermore all to be perfumed and greased with sweet ointments. And verily, so far as ever I could find by reading histories, the first prince that set such store by costly perfumes, was king *Darius*, among whose coffers (after that *Alexander* the Great had defeated him and woon his campe) there was found with other roiall furniture of his, a fine casket full of perfumes and costly ointments. But afterwards they grew into so good credite even among us, that they were admitted into the ranke of the principall pleasures, the most commendable delights, and the honestest comforts of this life. And more than that, men proceeded so farre, as therewith to honour the dead: as if by right that dutie belonged to them. And therefore it shall not be amisse to discourse of this theame more at large. Wherein I must advertise the Reader by the way, that for the present I will but only name those ingredients that goe into the composition of these ointments: such I meane as came not from hearbs and trees, shrubs and plants; reserving the treatise of their natures, vertues, and properties, unto their due place.

First

A First and formoſt therfore, all perfumes tooke their names either of the countrie where they were compounded, or of the liquors that went to their making, or of the plants that yeelded the ſimples and the drugs: or elſe of the cauſes and occaſions proper and peculiar unto them. And here it would be noted alſo principally, that the ſame ointments were not alwaies in like credite and eſtimation: but one robbed another of their honour and worth: inſomuch, as many times upon ſundrie occaſions, that which was lately in requeſt and price, anone gave place to a new and later invention. At the firſt in auncient time, the beſt ointments were thought to come from Delos; but afterwards, thoſe that were brought out of Ægypt: no talke then but of Mendeſium, compounded at Mendes, a cittie there. And this varietie and alteration was not occaſioned alwaies by the diverſitie of compoſition and mixture, but otherwhiles by reaſon of good or bad
B drugs: for ye ſhould have the ſame kind of liquors and oiles better in this countrey for one purpoſe, and in that for another: yea, and that which in ſome place was right and true, the ſame did degenerate and grow to a baſtard nature, if you chaunged once the region. For a long time, the oile or ointment of Iris or the Floure de-luce root made at Corinth, was in much requeſt, and highly praiſed: but afterwards that of Cizicum woon the name & credite, for the artificiall compoſition thereof. Semblably, the oile of Roſes that came from Phaſelus, was greatly called for: but in proceſſe of time, Naples, Capua, and Prænеſte, ſtole that honour and glorie from thence in that behalfe. The ointment of Saffron, confected at Soli in Cilicia, imported for a good while and caried the praiſe alone: but ſoone after, that of Rhodes was every mans money. The Oile drawne out of the flowers of the wild vine in Cyprus, bare the name once; but afterwards that of
C Ægypt was preferred before it: and in the end the Adramyttians gained the credite and commendation from both places, for the perfect & abſolute confection thereof. The ointment made of Marjoram, gave credite for a certaine time to the Iſle Coos: but not long after, their name was greater for another made of Quinces. As for the oile Cyprinum, which came of Cypros, the beſt was thought to be made in Cyprus: but afterwards there was a better ſuppoſed to be in Ægypt: where the ointments Metopium and Mendeſium all of a ſuddaine were better accepted than all the reſt. It was not long firſt, but that Phœnice put Ægypt by that credite for thoſe two ſingular compoſitions, and left the Ægyptians the name alone for the foreſaid Oile Cyprinum. The Athenians were renowned for their auncient Panathenaicum, and ever held their owne. There was in old time a notable compoſition named Pardalium, made in Tharſus: but now the mixture and
D making thereof is quite loſt. The ointment likewiſe Narciſſimum, where the flower of the Daffadill was the Baſis, is now forgotten, and no more made of it. The manner of compounding all theſe ointments, was two-fold, to wit, either of the juice and liquor, or els of the very ſubſtance and bodie of the ſimples. The former ſort reſemble the nature rather of Oiles: but the latter of Ointments. And theſe the Greekes call either Stymmata, which yeeld the conſiſtence and thickneſſe to ointments; or Hedyſmata, which ſerve to aromatize and give a compleat perfection unto them. There is a third thing between theſe, requiſite alſo to the full making of theſe ſweet ointments, namely, the colour: although many take no regard at all of it. And for this purpoſe, the perfumers put into their compoſitions Cinnabaris [i. Vermillion or Sanguis Draconis] and Orcanet. The ſalt moreover that is ſtrewed among, ſerveth to repreſſe and correct the nature of
E the oile that uniteth all the ingredients beſides. But thoſe that have the root of Orcanet in them, need no ſalt at all to be put in beſides. As for Roſin and Gum, they are mingled with the reſt to incorporate the drugs and ſpices, and to keepe in the ſweet odour thereof, which otherwiſe would evaporate and ſoone be loſt. We are to preſume by all likelyhood, that the firſt compoſition of ointments, and ſooneſt made, was of the odoriferous moſſe Bryon, and the oile of Ben onely: whereof we have written in the former booke. Then came in place a more compound ointment called Mendeſium, and that received Roſin alſo to the foreſaid oile of Ben. And more than that, another beſides named Metopium. Now is this Metopium an oile compounded, which the Ægyptians doe preſſe out firſt of bitter Almonds, but they added thereto for to incorporate the better, grape Verjuice: and the ingredients beſides, were Cardamanum, Squinanth, ſweet Ca-
F lamus, Honnie, Wine, Myrrhe, the graines or ſeeds of Baulme, Galbanum, Roſin, and Terpintine. One of the meaneſt and baſeſt ointments now adaies, and therefore thought to be as auncient as any other, is that which conſiſteth of the oile of Myrtles, ſweet Calamus, Cypreſſe, and Cypros [Squinanth] Lentiske, and the rind of the Pomgranate. But I would thinke verily, that Ointments came to be ſo divulged and common every where abroad, by meanes of Roſes moſt

of

of all: conſidering, that nothing groweth more rife in all places. Which was the cauſe, that the G
ſimple mixture of Oile Roſate, without any ſophiſtication beſides, continued for a long time, ha-
ving the addition of grape Verjuice, the flower of Roſes, the Saffron, Cinnabaris or Sinopum,
Calamus, Honie, Squinanth, the flower of ſalt called Sperma-ceti, or els in lieu thereof the root
of Orcanet, and Wine. The oile or ointment of Saffron was after the ſame ſort made, by putting
thereto Cinnabaris, Orcanet, and Wine. Semblably is to be ſaid of the oile of the ſweet leſſe ma-
joran, wherein was mixed grape Verjuice and ſweet Calamus. This compoſition was ſingularly
*Samſuchus. well made in Cyprus and at Mitylene, where great ſtore of ſweet *Majoran groweth. There bee
other oiles likewiſe which are not of ſo good reckoning, namely, of Myrtles and Baies, which re-
ceive a mixture with the addition of Majoran, Lillies, Fenigreek, Myrrhe, Caſia, Spikenard, Squi-
nanth, and Cinnamon. Moreover, of great Quinces and the leſſe called Mala Struthea, is made H
the oile Melinum, whereof we will ſpeake hereafter: which the perfumers uſe in their ointments,
by putting thereto grape Verjuice, the oile Cyprinum, the oile Seſamine, Baulme, Squinanth,
*Suſinum. Caſia, and Sothernwood. As touching the oile of *Lillies, which is the moſt ſubtile and thinneſt
of all other, it is made of Lillies, Ben, ſweet Calamus, Honie, Cinnamon, Saffron, Myrrhe, & Aſ-
palathus. Alſo the foreſaid oile Cyprinum is made of the flowers of Cypros, of Verjuice, Carda-
monum, Calamus, Aſpalathus, and Sothernwood. Some there be that put moreover unto this
oile, Myrrhe and Panace. The Sidonians are excellent at the making of this compoſition: & after
them the Ægyptians, ſo that they put not in Seſamium oile. For it will laſt & keep good full foure
years: and if it begin to looſe the ſmell, it is quickened and refreſhed again with Cinnamon. Now
*Telinum. as touching the ointment of *Feni-greeke, it is made of freſh oile, Cyperus, Calamus, Melilot,
Feni-greeke, Honie, oile of Quinces, the greater & the leſſe ſweet Marjaram. This was of higheſt I
reputation, in the daies of *Menander* the Comicall poet. But long after there ſucceeded into the
ſame place of credit, the ointment Megalium; ſo called for the great glorie that it caried: and this
was compounded of the oile of Ben, of Baulme liquor, ſweet Calamus, Squinanth, Balme-wood,
Caſia, and Roſin. In the making hereof, this propertie it had by it ſelfe, that all the while it was a
compounding and ſeething, it ſhould ever and anon be vented, and ſhifted out of one veſſell in-
to another, untill the ſmell of it were gone. Which nevertheleſſe it would recover againe after it
was once cold. Moreover, ſome liquors there be of themſelves, that without any other mixtures
may ſerve and go for noble ſweet ointments. Among which, that of Malabathrum is the cheefe:
next to it the Flower de Luce of Sclavonia, and the great ſweet Marjaram of Cyzicum. Howbeit
the Hearbariſts love to be putting in ſome few ſpices beſides, as well in the one as the other: but K
ſome make choiſe of one thing, ſome of another to entermingle withall. They that take delight
to have their mixtures moſt compound, adde unto either of thoſe abovenamed, Honie, the flour
of Salt, grape Verjuice, the leaves of Agnus Caſtus, and Panace, and generally all that be ſtrange
*Xylobalſamum. and forraine, to make their compoſitions ſeeme more wonderfull. To the oile or ointment of
*Carpobalſamū. Cinnamon, there goeth the oile of Ben, Baulme wood, ſweet Calamus, Squinanth, the *fruit or
ſeeds of Balſamanum, Myrrhe, and Honie Aromaticall. This is of all other the thickeſt ointment
in ſubſtance. The price of this, is from 35 deniers to 300 the pound. As for the ointment Nardi-
num or Foliatum, it is compoſed of the oile of greene Olives or grape Verjuice, of the oile of
Ben, of Squinanth, Coſtus, Spikenard, Amomum, Myrrhe, and Baulme. Howbeit, this point L
would not be forgotten in the making of this compoſition, that it is a very eaſie matter to ſo-
phiſticate it, by reaſon that there be no fewer than nine hearbes or ſimples which we have decla-
red, that come neare to the Indian Spikenard, and may bee taken for it. Finally, to quicken and
fortifie the ſent of all theſe ointments, there muſt no ſpare bee made of Coſtus and Amomum,
which of all other drugs pierce into the noſthrils, and caſt a ſtrong ſmell. To make them thicker
and more pleaſant, there would be good ſtore of Myrrhe put in: but to have them better for the
uſe of Phyſicke, and more medicinable, it is good to ſeaſon them well with Saffron. As for Amo-
mum, of it ſelfe alone it cauſeth all ointments where it commeth to bee moſt quicke and pene-
trative: inſomuch as it cauſeth headach. Some for to ſpare coſt, thinke it ſufficient to aromatize
onely theſe ointments with thoſe drugs which are ſo deare and precious, either by ſtrewing the M
powder, or ſprinckling their liquors among, whereas the reſt of the ingredients be boiled: but
ſuch compoſitions bee nothing ſo effectuall, as when all be ſodden and fermented together. As
for Myrrhe it ſelfe, it maketh alone a precious ointment without any other oile, I mean that on-
ly of the liquor Stacte: for otherwiſe it is exceeding bitter and unpleaſant. If it bee mingled

with

A with the oile Cyprinum, it looketh greene; if with the oile of Lillies, it will bee fattie and unctuous; if with Mendeſium, blacke; with oile Roſet, white; with that of Myrrhe, pale. Lo what were the inventions in old time of aromaticall and odoriferous ointments: loe what were the deviſes afterwards of the ſhopkeepers and perfumers, to picke pence out of our purſes, and to rob us. It remaineth now to ſpeake of the parangon indeed of all theſe pleaſures and delights: of that I ſay wherein conſiſteth the very height and cheefe point of this argument in hand.

Chap. II.

Of the Oyntment called Royall: of drie Perfumes, Powders, and Pomanders: and how they be kept.

B THe Royall Ointment therefore (which the Parthian Kings uſed ordinarily, and of whome it tooke that name to be called Royall) is tempered and compoſed in this manner: to wit, of Ben, Coſtus, Amonium, Cinamon, the Arbut or Comarus, Cadamonum, Spikenard, Marum, Myrrhe, Caſia, Storax Calamita, Ladanum, Baulme liquor, ſweet Calamus, Squinanth of Syria, the flower of the wild Vine, Malabathrum, Serichatum, Cyperus, Aſpalathus, Panace, Saffron, Cypros, Marjoram the greater, clarified or purified Honey, and Wine. As for Italie, (the ladie and conquereſſe of all other nations) there groweth nothing in it good to make ointments; no nor nothing throughout all Europe, unleſſe it be the Floure-deluce root, & the Celticke Spikenard: for Wine, Roſes, Myrtle leaves, and Oile, are well knowne to be common for
C all countries.

As for thoſe mixtures which be called Diapaſmata, they conſiſt of drie ſpices and drugs. Alſo the dregs or grounds of Ointments, they call Magma. Moreover, this is to be obſerved in the mixture and compoſition of thoſe Ointments, That the drugs which be put in laſt, are ever the ſtrongeſt and moſt effectuall.

Now as touching the keeping of Ointments, they are beſt preſerved in pots or veſſels of Alabaſtre: and Odors are ſureſt maintained and continue longeſt, being incorporate in oile: which the latter that it is, ſerveth better for a continuance of their ſent; as a man may ſee very well in the oyle of Almonds. And to ſay a truth, the older that an oyntment is, and the longer fermented, the more vertue it hath for the age. The ſunne is an enemie unto them, and therefore they
D muſt incorporate and unite together in the ſhade, and be put up in veſſels of lead. The triall of them is taken with the back-part of the hand, for fear leaſt that the heat of the fleſhie ſide within, ſhould corrupt and marre them.

Chap. III.

Of the ſuperfluitie in expence at Rome, about theſe Ointments: and at what time they were firſt uſed there.

AT this day there is not in Rome any thing wherein men more exceed, than in theſe coſtly and precious Ointments: and yet of all other, they are moſt ſuperfluous and may be beſt
E ſpared. True it is, that much money is laid out upon Pearles and precious ſtones; but theſe are in the nature of a domaine and inheritance, and fall to the next heire in ſucceſſion. Againe, rich and coſtly apparell ſtand us in a great deale of coine; howbeit they are durable and laſt a long time: but Perfumes and Ointments, are ſoon done and gone; they exhale and breath away quickly; they are momentanie, they ſerve but for the preſent, and die ſodainly. The greateſt matter in them, and their commendation is this, To cauſe a man (what buſines ſoever he hath otherwiſe) to caſt his eye and looke after a gentlewoman as ſhe paſſeth by perfumed in the ſtreets, and ſendeth a ſmell from her as ſhe goeth. This is all the good they doe: and yet forſooth a pound of this ware muſt coſt 400 deniers: ſo deer is the pleaſure that paſſeth from our ſelves and goeth to another: for the partie himſelfe that carrieth the perfume about him, hath little or no delight at
F all in it; others they be that reape the benefit and pleaſure thereof. And yet among theſe odoriferous compoſitions, there is choiſe and difference betweene one and another. We find in the writings of *M. Cicero*, that hee made more account of thoſe ointments which ſavoured of the earth, than thoſe which ſmelled all ſtrong of Saffron: as if hee meant thereby, That in this exceſſive diſorder and moſt corrupt enormitie of all others, a certaine moderation yet and ſad delay

would

would doe well; and that a severitie (if I may so say) in the vice it selfe, were better to be liked. But G
some take delight especially in thick and grosse ointments, and are not content to be perfumed, yea and bathed all over, unlesse they be besmeared, greased, and dawbed also therewith. I have my selfe seene some of them to annoint the very soles of their feet with these pretious baulmes: and (by report) it was *M. Otho* that first taught the Emperour *Nero* this wanton delicacie. But I would gladly know, and some good bodie tell me, I pray, How he could feele the smell thereof, and what delight or contentment it might yeeld from that part of the bodie? I have heard say besides, by some of the inward familiars and speciall favorites of this prince, That he commanded the very walls of his baines and stouves to be perfumed with pretious ointments: and that *C. Caligula* the Emperour, caused the very vessels and seats wherein he used to sit when hee bathed or swet in his hothouse, to be in that manner annointed. And because this might not seem H
to be a speciall pleasure fit for an Emperour onely, I knew one of *Neroes* servants afterwards, who used so to doe as well as his lord and master. But I muse and marveile at nothing so much, as that this wanton delight should find the way and enter so farre as into the mids of the campe. For wot ye what? I assure you the very standerds and ensignes, the Ægles (I say) and Minotaures, so dustie as they be otherwise, so foule and ill-favoured, as being kept so long, and standing by unoccupied, are wont forsooth to be annointed and perfumed upon high and festivall daies. And, so god helpe me, I would I knew who it was that first brought up this fashion and needlesse superfluitie: Certes, I would not defraud him of his due honor: I would (I say) recommend his name unto all posteritie. But thus it is (no doubt) and it cannot otherwise be; Our Ægles and standerds (bribed, hired, and corrupted with this so good a reward) have therefore in recompense I
conquered the whole world. Vnder such colours and pretences (indeed) wee deceive our selves, and cloake the vice and riot of our times: and thus having so good a reason as this, to induce and draw us on, we may not sticke to have pretious baulmes upon our heads, so it be under our sallats and mourrons.

To say for certeintie and precisely, when this enormitie entred first into Rome and began there to raigne, I am not able. Sure it is, as appeareth upon record, That after the subduing of K. *Antiochus* and the conquest of Asia, which was about the 565 yeere from the foundation of Rome, *P. Licinius Crassus*, and *L. Iulius Cæsar* the Censors, published an edict, prohibiting and forbidding to sell any forrein or strange ointments within Rome: for so they tearmed these sweet mixtures and compositions. But (beleeve me) now adaies, some there be so wanton and deli- K
cate, that there is no wine or other drinke good with them, nor will goe downe their throat, unlesse it be spiced and aromatized with these baulmes: and so little passe they for the bitternesse of these odours and smels, that they are well content to wast and spend a deale thereof, without and within, behind and before, above and beneath, to enjoy the perfume thereof in all parts of the bodie wheresoever. Well knowne it is, that *L. Plotius*, brother to *L. Plancus*, a man of great credit and authoritie, as having been twice Consull, and Censor besides, beeing outlawed and
* *Antonie, Lepidus, & Octavius.* proclaimed a banished person by the decree of the* Triumvirs, was discovered within a certain cave at Salernum, where he lay close hidden and sure enough otherwise, by the very smell onely of a pretious oyntment that he had about him: and so by that meanes (besides the shame and L
disgrace that he received, thus to detect himselfe and be found of his enemies) the rigour of the act and arrest that passed against him, was executed and performed upon his bodie. And who would ever pitie such persons, & not judge them worthie to come to so bad an end? But to conclude all this discourse, There is not a country in the world that yeeldeth such plentie and varietie of drugs fit for these compositions, as Ægypt: and next to it, Campaine in Italie may carrie the name, for the store of Roses there growing.

Chap. iiii.

Of Dates, and Date trees: their nature and severall kinds.

THe land of Iurie is as much renowmed, or rather more, for the aboundance of Palmes or M
Date trees which it affourdeth: the discourse whereof we now will enter into. True it is, and it cannot be denied verily, that there be of them found in Europe, & namely, every where in Italy; but such, be all of them barren. Also in the maritime parts and sea-coasts of Spaine, ye shall meet with Palmes that beare Dates, but they are but tart and unpleasant, and indeed never

come

A come to their maturitie and ripeneſſe. Thoſe of Affrick, I muſt needs ſay, bring forth a ſweet and pleaſant fruit, but it will not laſt, and ſoone is gone: whereas contrariwiſe, in the Eaſt parts the people make wine thereof; and in ſome countries they uſe it for bread, yea the very brute & four-footed beaſts doe ordinarily feed of Dates: and therefore we hold and conclude, that Dates may be truly called, Forrein fruits; and their Trees, Meere ſtraungers in this part of the world. For in Italy a man ſhall not find ſo much as one Palme tree that commeth up of it ſelfe, without it be ſet or planted by mans hand: neither in any other region whatſoever, unleſſe it lie under ſome hote climat: but to beare fruit ye ſhall never know it in any countrey, if the ſame be not extreme ardent and ſcortching. Date trees love a light and ſandie ground, and ſpecially (for the moſt part) if it ſtand much upon a veine of Nitre beſides. And yet contented will they be to grow by ſome
B river ſide, where they may have as it were, one foot in the water, and be ever drinking all the yeer long, eſpecially in a drie ſeaſon. Some thinke, that dung is as contrarie and hurtfull unto them, as to ſome kind of Citron trees in Aſſyria, unleſſe it be mingled and tempered with water, or the trees planted neare to ſome running river. Moreover, many kinds there be of Date trees: and the firſt are ſmall, and exceed not the bigneſſe of ſhrubs: theſe in ſome parts are barrein, and in others fruitfull: they ſhute out little ſhort branches round about, but very full of leaves, the which in moſt places ſerve in ſtead of parget & rough-caſt, to defend walls of houſes againſt the weather and drifts of raine. Howbeit a ſecond ſort there be that are much taller, and whole forreſts ſtand onely upon thoſe trees: they put forth leaves ſharpe pointed, and they grow round about diſpoſed one cloſe unto another in manner of comb-teeth: and theſe muſt of neceſſitie bee ta-
C ken for wild, and no better: and they love here and there as it falleth out, to be entermingled among thoſe of the tamer kind, as if they tooke I wot not what pleaſure in their companie. The reſt growing in the Eaſt parts, be ſtreight, round, and tall, environed about the bodie with circles or houpes made of the very barke it ſelfe, and they are of the thicknes of a mans thumbe, ſet in order one above another like ſteps and greeces neare togither, in ſuch ſort that the people of the Eaſt may eaſily climbe them, by the meanes of the ſaid barke, which ſerveth not only for a veſtiment to the tree, but alſo for ſtaires to him that would mount up, ſo that it is a wonder to ſee how nimbly a man will run up to the top. Theſe Date trees beare all their braunches toward the head; and their fruit commeth not forth among the leaves as in other trees, but hangeth to certaine braunches and twigs of the owne betweene the boughs like cluſters of grapes: inſomuch as
D it reſembleth partly the nature of a grape, and partly of an apple. The leaves made in forme of a knife blade ſharpe toward the point, ſlit as it were and cloven in the edge along both ſides, make ſhew at the firſt of certain faire and beautifull gemmes: and now they ſerve inſtead of cords, and to bind vines togither: alſo being divided and ſlived into flakes, they are good to plait for hats and light bongraces for the head, againſt the heat of the ſunne. Moreover, all learned men who are deeply ſtudied in the ſecrets of Nature, be of opinion and doe teach us, That in all trees and Plants, nay rather in all things that proceed out of the earth, even in the very Hearbs, there are both ſexes. Let it ſuffice therefore to have ſpoken thus much once for all in this place. But there is no tree whatſoever, in which this diſtinction of male and female appeareth more, than in Palme trees: for the male putteth forth his bloome in the braunch; but the female ſheweth no flower
E at all, but ſprouteth and ſhooteth out buds in manner of a thorne: howbeit both in the one and the other, the pulpe or fleſh of the Date commeth firſt, & after it the woodie ſtone within, which ſtandeth in ſtead of the graine and ſeed of the Date. And this appeareth evidently by a good token, for that in the ſame braunch there be found little young Dates without any ſuch ſtone at all. Now is the ſaid ſtone or kernell of the Date, in forme long, not ſo round and turned like a ball as that of the Olive. Beſides, along the back it hath a cut or deepe ſlit chamfered in (as it were) betweene two pillowes; but in the mids of the belly on the other ſide, for the moſt part, it hath a round ſpecke formed like a navill, wherat the root or chit beginneth firſt to put forth. Moreover, for the better planting of Dates, they ſet two togither of their ſtones in a ranke with the bellies downward to the earth, and as many over their heads: for if one alone ſhould come up, it were
F not able to ſtand of it ſelfe, the root and young plant would be ſo feeble; but foure togither ſo joyne, claſpe, and grow one to another, that they do well enough and are ſufficient to bear themſelves upright. The kernell or woodie ſubſtance within the Date, is divided from the fleſhie pulpe and meat thereof, by many white pellicles or thin skins betweene: neither lyeth it cloſe thereto, but hollow a good diſtance from it, ſave that in the head it is faſtened thereunto by a thred or

ſtring: and yet there be other pellicles that cleave faſt and ſticke to the ſubſtance of the Date G
within. The Date is a yeere in ripening. Howbeit in certaine places, as namely in Cyprus, the meat or fleſhie pulpe thereof is ſweet and pleaſant in taſt, although it bee not come to the full ripeneſſe: [where alſo the leafe of the tree is broader, and the fruit rounder than the reſt:] mary then you muſt take heed not to eat and ſwallow downe the very bodily ſubſtance of it, but ſpit it forth after you have well chewed and ſucked out the juice thereof. Alſo they ſay, that in Arabia the Dates have but a faint & weake ſweetnes with them: and yet K. *Iuba* maketh greateſt account of thoſe which the region of the Scenites in Arabia doth yeeld, where they be called Dabula: and he commendeth them for their delicate and pleaſant taſt, before all others. Moreover, it is conſtantly affirmed, That the females be naturally barrein, and will not beare fruit without the companie of the males among them to make them for to conceive: yet grow they will never- H
theleſſe and come up of themſelves, yea and become tall woods: and verily a man ſhall ſee many of the femals ſtand about one male, bending and leaning in the head full kindly toward him, yeelding their braunches that way as if they courted him for to win his love. But contrariwiſe, he a grim ſir and a coy, carrieth his head aloft, beareth his briſtled & rough arms upright on high: and yet what with his very lookes, what with his breathing and exhalations upon them, or elſe with a certain duſt that paſſeth from him, he doth the part of an husband, inſomuch as all the females about him, conceive and are fruitfull with his onely preſence. It is ſaid moreover, That if this male tree be cut downe, his wives will afterwards become barrein and beare no more Dates, as if they were widdowes. Finally, ſo evident is the copulation of theſe ſexes in the Date trees, and knowne to be ſo effectuall, that men have deviſed alſo to make the femals fruitfull, by caſting I
upon them the bloomes and downe that the male beareth, yea and otherwhiles by ſtrewing the powder which he yeeldeth, upon them. Beſides the manner aboveſaid of ſetting Date ſtones for encreaſe, the trees may bee replanted of the very truncheons of two cubits long, ſlived and divided from the very braine (as it were) of the greene tree in the top, and ſo couched and interred, leaving onely the head without the ground. Moreover, Date trees will take againe and live, if either their ſlips be plucked from the root, or their tendrils and ſmall braunches be ſet in the earth. As for the Aſſyrians, they make no more adoe, but if it be a moiſt ſoile, plaſh the very tree it ſelfe whole as it ſtandeth, and draw it along and ſo trench it within the ground, and thus it will take root and propagate: but ſuch will never prove faire trees, but skrubs onely. And therefore they deviſe certaine Seminaries or Nource-gardens of them, and no ſooner bee they of one yeares K
growth, but they tranſplant them; and ſo againe a ſecond time when they be two years old: for theſe trees love alone to be remooved from one place to another. But whereas in other countries this tranſplantation is practiſed in the ſpring, the Aſſyrians attend the very mids and heat of Summer, and in the beginning of the Dog-daies uſe to replant them. Moreover, in that country they neither cut off the heads, ne yet ſhred the braunches of the yong plants with their hooks and bills; but rather bind up their boughes, that they may ſhoot up in height the better. Howbeit when they are ſtrong, they cut their braunches, for to make the bodies burniſh and waxe thicker, but yet in the lopping they leave ſtumps of boughs halfe a foot long, to the very tree: which if they were cut off, in other places, would be the death of the mother ſtocke. And forasmuch as Date trees delight in a ſalt and nitrous ſoile, [according as hath been before ſaid] the L
Aſſyrians therefore when they meet not with a ground of that nature, ſtrew ſalt, not cloſe about the roots, but ſomewhat farther off. In Syria and Ægypt, there be ſome Date trees that divide themſelves and are forked in twaine, riſing up in two trunks or bodies. In Crete, they have three, and ſome alſo five. The nature of the Palme or Date tree, is to beare ordinarily when they be three yeares old: howbeit in Cyprus, Syria, and Ægypt, it is foure yeares firſt ere ſome bring fruit; yea and five yeares before others begin: and ſuch never exceed a mans heigth; neither have they any ſtone or woodie kernell within the Date ſo long as they be young and tender: during which time they have a pretie name for them, and call them Gelded Dates: and many kinds there be of theſe trees. As for thoſe that be barrein and fruitleſſe, all Aſſyria and Perſia throughout, uſe them for timber to make quarters and pamels for ſeeling, waineſcot, and their fine joy- M
ned workes. There be alſo of Date trees coppey woods, which they uſe to fell and cut at certaine times: and evermore they put forth a young ſpring from the old root and ſtocke. Theſe have in the very head and top, a certaine pleaſant and ſweet marow, which they tearme, The braine: and therefore thoſe that love to eat it, will cut and take it away, and yet the tree will live nevertheleſſe:

a thing

A a thing that ye ſhall not lightly ſee in any others of that kind. As for thoſe Date trees which have broader leaves, & the ſame ſoft and pliable, very good to make windings to bind vines and ſuch like, they be named by the Greekes Chamæropes. Great abundance there is of them in Creta, but more in Sicily. The wood of Date trees yeeldeth coales, that in the burning will keepe fire long: howbeit a dead flame it is that they make, and nothing quicke. As touching thoſe that be fruitfull, ſome beare Dates with a ſhort ſtone or kernell within; others with a longer: theſe are more ſoft, thoſe be harder. Some carie a kernell of a bonie ſubſtance, like the moone croiſſant, which many are wont to poliſh with ſome tooth, and in a kind of religion are perſuaded, that it is good againſt witchcraft, and is of vertue to procure womens love. Some of theſe ſtones be clad and covered with many skins or pellicles, and others with fewer: ye ſhall have in this Date, thoſe
B tunicles thicke and groſſe; in that, thinner and more fine. In ſumme, if a man would ſearch into them particularly, he ſhould find fiftie ſundrie ſorts of Dates ſave one, with ſeverall ſtrange, and barbarous names, & as many different wines made of them. But the principall & moſt excellent of all the reſt, ſurnamed Roiall Dates, for that they were reſerved for the kings owne mouth of Perſia, were known to grow no where els but in Babylon, and in one hortyard or parke only of a Bagous (for ſo they uſe to call their eunuches or guelded perſons, and ſuch in times paſt reigned as KK. over them:) and this parke was evermore annexed to the crown, and went with the Roiall ſcepter, as a chiefe demaine of the Empire, and paſſed from one prince to another by ſucceſſion. But in the South countries and meridionall parts of the world, the Dates ſurnamed Syagri are highly commended above all others, and moſt eſteemed: and next to them, thoſe which be
C called Margarides, are in account and good requeſt: Theſe be ſhort, white, and round, more like in forme to berries and little buttons, than to maſt-fruit and Dates indeed: wherupon they took their name of Pearls, which they do reſemble. It is reported, that in the citie Chora, there is one of theſe trees which beareth Dates like to Pearles; as alſo another that carieth the Dates Syagri. I my ſelfe verily have heard ſtraunge things of this kind of tree, and namely in regard of the bird Phœnix, which is ſuppoſed to have taken that name of this Date tree [called in Greek φοῖνιξ] for it was aſſured unto me, that the ſaid bird died with that tree, and revived of it ſelfe as the tree ſprung againe. Now at the very time that I wrote this Hiſtorie of Natures workes, I ſaw the ſame tree with fruit upon it: the Date that it beareth is great, hard, rough in handling, and in taſt reſembling ſome harſh and wild fruit, farre different from other kinds of Dates: in ſuch ſort, as I
D wondred not at the name of Syagros, ſo like it taſted to the fleſh and veniſon of a wild Bore in the forreſt, that commeth to our board. In a fourth rank of Dates for goodnes, are to be raunged thoſe which they call Sandalides, for the reſemblance of ſlippers or pantofles which they uſed in old time, named Sandalio. But in theſe daies they bee as rare, as otherwiſe pleaſant; ſo that within the bounds of Æthiopia (a wonderfull matter) there be not above five of them to be found. After the Sandalides, the Dates Caryotæ are in greateſt requeſt: for they bee not onely good to eat, but alſo a wine is made of their juice, which they yeeld in great abundance: for all the people of the Eaſt make their ſpeciall drinke there of. But true it is, that this kind of wine is hurtfull to the head, and therupon the Greeks gave it that name. Now as theſe countries above-ſaid doe affourd plentie of Date trees, and the ſame fruitfull enough, ſo Iurie alone carrieth the
E name and the praiſe for goodnes of Dates; and not all Iurie neither, but the territorie about Iericho eſpecially: and yet I muſt needs ſay, that there be gathered very good Dates in the vales of Iury, which be named Archelais, Phaſelis, and Livias. And theſe Dates of Iurie, have this eſpeciall propertie above all others, To be full of a fat white liquor reſembling milke, which hath a certaine taſt of wine, and is exceeding ſweet and pleaſant withall like honey. The drier kind of theſe Dates be thoſe that tooke name of one *Nicolas*, and were called Nicolai: paſſing faire and great they be above all others by farre; for foure of them laid in a ranke one at the end of another, will make a cubit in length. Other Dates there be, not ſo faire to the eye as theſe Caryotæ, but ſurely for pleaſant taſt they may be well their ſiſters, like as they bee called thereupon Adelphides. And a third kind there be of the ſame Caryotæ, which they commonly call Pateton:
F over-full they are of liquor, and ſo drunke (as a man would ſay) with their owne juice, that they burſt even as they hang upon the tree their mother, yeelding their wine in that manner of their owne accord, as if they were troden with mens feet in a wine-preſſe; and thereupon they got that name. Another kind there is yet by it ſelfe, of thoſe Dates that be drier than the reſt, and they be very long and ſlender, yea and otherwhiles not ſtreight, but bending and crooked. As for thoſe

which we dedicate to holy uſes, and namely, when wee ſacrifice and offer oblations to the gods, G
the Iewes (a nation above all others noted for contempt and mockerie of the gods) their worſhip and divine ſervice) doe name Chydæi, [*i.* vile and of no price.] The Dates in Ægypt called Thebaides, as alſo thoſe in Arabia, be all over-drie and withered, poore, leane, and thin. Parched as they be continually with the heat of the Sunne, a man would deeme they were covered with a cruſt or ſhell, rather than with a skin or pill. Goe further into Æthiopia, there they be ſo drie that they will ſoone crumble into powder like meale; and indeed they make therof their bread, when it is tempered and wrought with water. Theſe Dates be round, and bigger than a good apple; and they grow upon a plant or ſhrub which ſpreadeth braunches of a cubit length: and the Greekes call them Cycæ. They hang three yeares before they be ripe: and evermore you ſhall ſee upon the tree Dates ripe, when others come new foorth greene and ſmall. As for the Dates H
of Thebais in high Ægypt, ſo ſoone as they be gathered, preſently they are put up into barrels, whiles their naturall heat is in them; for if that courſe were not taken with them, it would ſoone exhale and vaniſh away: yet will they decay and rot, if they be not baked againe in the oven. As touching all other Dates, they ſeeme to be the common and vulgar ſort, ſimply called Dates: and yet both the Syrians and King *Iuba*, hold them for junkets and banketting diſhes. For as in ſome part of Phœnice and Cilicia, they bee called Balani, [*i.* glandes or maſt] ſo we at Rome tearme them by the very name of their owne countrey Phœnice, and by no other. And even of them there be many kinds; and thoſe different one from another, either in forme, for that ſome be round, others long; or elſe in colour, whiles there be of them red and blacke: in which regard, a man may obſerve in them (by report) as great varietie as in figs: howbeit the whiteſt be I
the beſt and moſt commended. Great diverſitie there is alſo among them in quantitie and bigneſſe, inſomuch as ye ſhall have many of them that want nothing of a cubit; and other for them againe no bigger than a beane. Now as touching the Dates that be barrelled up and kept, they be ſuch onely as come from ſalt and ſandie grounds, as in Iurie, and Cyrenaica in Affricke: for thoſe of Ægypt, Cyprus, Syria, and Seleucia in Aſſyria, will not keepe and be preſerved: and therefore they muſt be ſpent out of hand: for which, they take good order to franke their ſwine and feed other cattaile fat with them. The true ſigne to know a faultie or a ſtale Date, is this, If a certaine white ſpecke or wart which ſtucke upon it when it grew on the branch, be ſhed and falne off. Now to conclude this treatiſe, I think it not amiſſe to ſet downe for an example, what did betide the ſouldiers that were of *Alexanders* armie, who with eating of greene Dates new ripe, K
were choked, and ſo died. In the Gedroſians countrey, this accident befell unto them, onely by the nature of the fruit it ſelfe, eat they of it as moderately as they could: but in other parts, their greedie and over-liberall feeding upon them, was their bane. For ſurely new Dates as they come from the tree, are ſo exceeding pleaſant and delicious, that a man can hardly forbeare and make an end in good time, before he ſurfet of them and catch a ſhrewd turne.

Chap. v.

Of the trees in Syria.

L
Beſides the Date tree, there be other eſpeciall trees in Syria proper unto that countrey: for in the firſt place there are a kind of Nuts there growing, commonly knowne and called Fiſticks. And (by report) this vertue they have, either taken as meat or drunk in drinke, To reſiſt the ſting and biting of ſerpents. Alſo our drie * Figs, and a leſſer ſort than they named Cottana come from thence. Alſo the Damaſcene prunes, growing upon the mount Damaſcus; as alſo the fruit Sebeſten, are the commodities of Syria: howſoever they are now familiar here with us in Italy. As for Sebeſten, there be wines made thereof in Ægypt. Alſo the Phœnicians have a leſſe kind of Cedars much like to the Iuniper: and two ſorts there be thereof, the Lycian and the Phœnician, which differ in the leafe: for that which hath an hard, ſharpe, and prickie leafe, is called Oxycedrus: full of braunches it is beſides, and ſo knurrie, that it is troubleſome to the hand. As for the other Cedar, it hath an excellent ſmell. Both twaine doe beare a fruit of M
the bigneſſe of Myrtle leaves, and ſweet in taſt. Moreover, of the greater Cedar there bee two kinds: that which doth bloſſome, beareth no fruit: and contrariwiſe, that which is fruitfull, ſheweth no bloſſome: and in this, the new fruit commeth foorth alwaies before the old of the former yeare be ripe and gathered: alſo the ſeed of it is like that of the Cypreſſe. Some call this Cedar,

* called Lenten figs.

A Cedar, Cedrelate: whereof commeth the beſt Roſin. And the timber of it is everlaſting: wherefore in old time they were wont to make the images of the gods, of this wood, as it appeareth by the ſtatue of *Apollo Soſianus*, made of Cedar wood, brought from Seleucia. In Arcadia there is a tree like the Cedar, but in Phrygia it is called a ſhrub.

Chap. VI.

Of the Terebinth.

MOreover, in Syria groweth the Terebinth or Terpentine tree. The male beareth no fruit. The females be of two ſorts: the one carieth red graines of the bigneſſe of Lentils, the
B other bring forth pale ſeeds. This fruit of the Terebinth ripeneth with grapes. Vpon the mountaine Ida near Troas, it is as big as a Beane, more pleaſant to ſmell unto, and glutinous like Roſin, if a man handle it. But in Macedonie the tree is but ſhort, and ſpreadeth braunches like a ſhrub: contrariwiſe, about Damaſcus in Syria, it is very great and tall. The timber of it is verie tough, continueth a long time, and never ſhrinketh for age: of colour blacke, but paſſing faire, and reſplendent withall. It putteth forth flowers in cluſters after the manner of the Olive, but it is red: and the leaves otherwiſe grow very thicke. It beareth alſo certaine ſmall cods or bladders full of a gummie and clammie moiſture (which alſo iſſueth out of the barke) and out of thoſe bladders there come forth little flies like gnats.

Alſo the male Rhus or Sumach of Syria doth beare fruit: wheras the females is barren. This
C plant putteth forth leaves like to the Elme, but that they be ſomewhat longer, and full of haires, and evermore the ſteles of the leaves grow contrarie one againſt the other. As for the braunches, they be ſlender and ſhort, good for curriers to dreſſe their skins and make leather white. The ſeed or graine thereof reſembleth Lentils: and being ripe, it is red, and commonly with the grape. The which is called Rhus or Sumach, even as the tree: a neceſſarie fruit for many medicines.

Chap. VII.

Of the Aegyptian and Cyprian Sycomores or Fig-trees.

D IN Ægypt likewiſe there be found many trees which grow not elſewhere: and principally the Sycomore, which thereupon is called the Ægyptian Figtree. The tree for leaſe, bigneſſe, and barke, is like unto the Mulberie tree. It beareth fruit not upon the branches, but out of the very bodie of the ſtocke. And the ſame is a paſſing ſweet fig, but without any graines at all within. It doth increaſe in exceeding great abundance, ſo it be ſcraped and clawed only with yron hooks: for otherwiſe it will not ripen. Come then foure daies after to gather it, you ſhall not miſſe but find it ripe, and new comming up in the place. Thus in every ſummer you ſhall have a ſevenfold encreaſe, and the ſame in much plentie, yeelding alſo great abundance of milke. And ſay that you doe not uſe the ſcraping or paring abovenamed, yet ſhall you be ſure of four fruits in a ſummer, one under another; but ſo as the new will drive the old before it, and cauſe it to ſhed and fall
E before it bee well ripe, for want of that handling beforeſaid. The timber of this tree is counted right good and profitable; having one ſingular propertie by it ſelfe. No ſooner is it hewed, but preſently it is caſt into ſtanding pooles, and there drowned. This is the only way to ſeaſon, & drie it. At the firſt (I ſay) it ſinketh downe to the bottome: but afterwards it beginneth to flote above: and without all queſtion, the water which uſeth to wet and drench all other trees, ſoketh and ſucketh forth the ſap and humiditie of this wood. Now when it beginneth once to ſwim aloft, it is a ſigne that it hath the full ſeaſoning, and is good for building and other workes.

Like to this Sycomore in ſome ſort is a certaine tree in Candie, which is called the Cyprian fig-tree. For this likewiſe beareth fruit comming out at the very ſtocke, or the maine armes and boughes thereof, when they be growne to any thickneſſe: but it putteth forth certain ſprigs with-
F out any leaves at all, and they reſemble roots. Now this tree is in bodie much like to the Poplar, but in leaſe, to the Elme. It beareth fruit foure times a yeare, and as often doth it bud. But the greene figs will hang ſo ſtill and never ripen, unleſſe they be ſcarified and skiced ſo, as the milkie ſubſtance may run out. The fruit within, is made like a fig, and hath the ſame pleaſant taſt: but it is no bigger than the Sorvis.

G

Chap. VIII.

Of the cod or fruit called Ceraunia Siliqua, [i. Carob.]

THere is a kind of coddie ſhrub, which the Ionians call Ceraunia, not unlike to the Ægyptian Sycomore aboveſaid, for the fruit thereof commeth likewiſe forth of the ſtocke, but yet it is contained within a cod. And thereupon it is, that ſome have called it the Ægyptian fig-tree: but they are groſſely deceived. For it doth not ſo much as grow in Ægypt: but in Syria and Ionia, alſo about Gnidos and Rhodes. The tree hath greene leaves all the yeare long: it putteth forth white flowers of a ſtrong ſmell. From the root there ſpring ſhoots, and about the foot of the tree it beareth many young impes, which are ſuch ſuckers of the ſap, that they draw H away all the goodneſſe, and rob the parts above of their nouriſhment, whereby the head is yellow, and nothing freſh and greene, but fadeth in the top. The fruit of the former yeare is gathered about the riſing of the Dog-ſtarre the next yeare after: and then preſently it bringeth forth new. Afterwards commeth a bloſſome, and the fruit thriveth and waxeth all winter untill the occultation of Arcturus.

Chap. IX.

Of a tree in Ægypt called Perſica: of Cucus, and the Ægyptian thorne Acacia.

I

THere is found in Ægypt a certaine kind of tree by it ſelfe called Perſica, like to a Peare-tree, but that it is greene all the year long, and ſheddeth not the leaves: alſo it beareth fruit continually: for gather to day, and yee ſhall find new to morrow growing forth in the place. The fruit is ripe about the canicular daies when the Eteſian winds doe blow. It reſembleth a Peare, ſave that it is longer, and incloſed with a ſhell or greene huske like the Almond: but where the Almond hath an hard ſhell without, as a nut, this is ſoft in manner of a Peare or Plum, containing the ſtone within: and yet it differeth ſomewhat both in ſhortneſſe and tenderneſſe. The fruit is very good meat: and although the exceeding ſweetneſſe thereof entice one to eat ſtill and not give over, yet no daunger of ſurfet enſueth thereupon. As touching the wood of this tree, it is durable, hard, ſtrong, and blacke withall, in which reſpects it reſembleth the Lote-wood very K much. They uſed in times paſt to make images and ſtatues thereof, not ſo beautifull altogether, nor of ſo fine a graine as ſome others; but for the timber thereof, which continueth ſure, and laſteth long, as that of the tree which we called Balanus. Much wherof doth grow curbed and crooked: and therefore is good onely for ſhipwrights to make keeles. But contrariwiſe, the wood of Cucus is highly eſteemed.

A tree this is, not unlike to the Date tree, in this regard eſpecially, that the leaves be good to twiſt and plait for mats and ſuch like: herein is the difference, for that it ſpreadeth into arms and great boughes. The fruit which it beareth, is as much as a man may well hold in his hand: of colour reddiſh or deepe ſhining yellow, and the taſt very commendable: for it yeeldeth a juice betweene ſoure and ſweet, and therefore wholeſome for the ſtomacke. The woodie ſtone within, is L great, maſſie, and exceeding hard, whereof they uſe to turne for courtaine rings and ſaile pulleis. In the bellie of it there lieth a ſweet kernill, whiles it is freſh and new. But if it bee once dried, it paſſeth for hardneſſe: inſomuch as no tooth can chew it, unleſſe it be ſteeped in ſome liquor many daies before. As for the wood and timber of the tree, it hath a moſt daintie, fine, and curled graine: in which regard the Perſians ſet much ſtore by it.

In the ſame countrey there groweth a thornie plant, which the inhabitants make great account of: and eſpecially that which is in colour blacke, becauſe it will abide the water, and never rot nor putrifie in it: and therefore excellent good for the ribs and ſides of ſhips. As for the white thorn of this kind, it will ſoone corrupt and be rotten. But both the one and other, is full of prickes even to the very leaves. The ſeed lieth in certain cods or huskes, wherewith curriers uſe to dreſſe their M leather in ſtead of gals. The flower that this thorne beareth, is beautifull, whereof folke make faire guirlands and chaplets; profitable alſo beſides and good for many medicines. Out of the barke of this tree there commeth a gum likewiſe. But the cheefeſt commoditie and profite that it yeeldeth is this, Cut it down when you pleaſe, it will be a big tree againe within three yeares. It

groweth

A groweth plentifully about Thebes in Ægypt, among Okes, Olives, and Peach-trees, for the ſpace of three hundred ſtadia from Nilus: where the whole tract is all woods and forreſts, and natheleſſe well watered with fountaines and ſprings among.

Chap. X.

Of the Ægyptian Plum-tree, and other trees about Memphis.

IN thoſe quarters groweth likewiſe the Ægyptian Plum-tree, not unlike to the thorne of Acacia next before deſcribed: and this bringeth forth a fruit as big as a Medler, which never is ripe before mid-winter, when the daies be at ſhorteſt. The tree is alwaies greene, and ſheddeth not
B the leaves all the yeare long. Within the fruit aforeſaid, there is a big ſtone: but the ſubſtance otherwiſe and bodie thereof is naturally ſo good, and ſo plenteous withall, that the inhabitants make their harveſt of it. When they have gathered it, they cleanſe it, ſtampe it, make it up into bals and lumpes, which they preſerve and keepe. The countrey about Memphis in times paſt, was all woodie and full of forreſts, wherein grew ſo mightie big trees, that three men were not able to fatham them about. But among the reſt there was one by it ſelfe moſt wonderfull, not for any ſtraunge fruit that it bare, nor yet for any ſingular uſe or emploiment: but in regard of an accident obſerved in it, and a ſpeciall qualitie that it had. For the tree (forſooth) outwardly reſembleth a thorne, but the leaves are made like feathers for all the world. Let a man ſhake the boughes never ſo little, ſhead they will and fall incontinently, but ſoone after there ſpring up
C new in their ſtead.

Chap. XI.

Sundrie ſorts of gum. Alſo of the cane Papyrus.

THe beſt gum in all mens judgement, is that which commeth of the Ægyptian thorne Acacia, having veines within of checker worke, or trailed like wormes, of colour greeniſh, and cleare withall: without any peeces of barke intermingled among, and ſticking to the teeth as a man cheweth it. A pound thereof is commonly ſold at Rome for three deniers. The gum that iſſueth from the bitter Almond trees and the Cherie-trees is not ſo good: but the
D worſt of all is that which the Plum-tree yeeldeth. There runneth likewiſe out of vines a certaine gum, which is paſſing good for the bleach, ſcabs and ſcals in little children. And otherwhiles yee ſhall find ſome in Olive trees: and that cureth the tooth-ach. Moreover, the Elme growing upon Corycus, a mountaine in Cilicia, and the Iuniper there, have a gum, but good for nothing. As for that of the Elme, it breedeth gnats there. Moreover, of Sarcocolla, [a tree this is, ſo called] there diſtilleth a gum of that name, which painters and Phyſicians both, have great uſe of. Like it is to Manna Thuris, which is the powder of Incenſe: and therefore the white is better than the red. Sold it is at the ſame price that the other abovenamed. And thus much concerning the trees growing upon mountaines and plaines.

Now albeit we are not entred yet into the treatiſe of thoſe plants and ſhrubs which grow either
E in mariſh grounds, or by river ſides: yet before we depart out of Ægypt, wee muſt not forget the plant Papyrus, but deſcribe the nature thereof, conſidering, that all civilitie of this our life, the memoriall and immortalitie alſo of men after death, conſiſteth eſpecially in paper which is made thereof. *M. Varro* writeth, that the firſt invention of making paper was deviſed upon the conqueſt of Ægypt, atchieved by *Alexander* the great, at what time as he founded the citie Alexandria in Ægypt, where ſuch paper was firſt made. For before that time there was no uſe at all (ſaith he) of paper: but men uſed to write in Date tree leaves firſt, and afterwards in the rinds and barkes of certaine trees. Then in proceſſe of time they began to regiſter publicke records in rols & ſheets of lead: and ſoone after private perſons ſet downe their owne affaires in linnen bookes, or els in tables covered with waxe. For wee read in *Homer*, that before the war of Troy there was uſe of
F writing tables. And at the very time when he wrate, Ægypt was not all continent and firme land, as now it is. For, as he ſaith, all the Papyrus wherof the paper is made, grew in that arm or branch of the river Nilus which anſwereth onely to the tract or territorie within the jurisdiction Sebennitis: but afterwards that part alſo was laid to Ægypt, by the ſhelves and bankes made with the innundation of the ſaid river. For, from the Iſland Pharos, which now joineth cloſe unto Alexandria,

dria by a bridge or narrow cauſey betweene, it was a day and nights ſailing, with a good forewind G
at the poupe unto the maine land, as *Homer* hath reported. But afterwards, as *Varro* hath written, by occaſion of a certaine envious ſtrife and emulation that aroſe betweene one of the *Ptolomees* king of Ægypt, & *Eumenes* king of Pergamus, about the erecting of their great Libraries; when *Ptolomæus* ſuppreſſed and kept in all the paper made in Ægypt, there was parchment deviſed by the ſaid *Eumenes* to be wrought at Pergamus, of skins. And finally, the uſe was commonly taken up of both, to wit, Paper and Parchment, which continueth the perpetuitie and everlaſting remembrance of men, and their affaires. But to returne unto our plant Papyrus, it groweth in the mariſhes of Ægypt, or els in the dead ſtanding waters of Nilus, namely, in certaine plaſhes and pits whereas the water did overflow, and remained ſtill after the river was fallen and down again: and namely, ſuch holes and ditches which are not above two cubites deepe. The root is wrythen H
and crooked, of the thickneſſe of a mans arme: and the ſcape or ſtalke that ariſeth from it, hath three ſides with three corners triangle-wiſe, not above ten cubites in heigth, growing taper-wiſe, ſmall and ſharpe in the top, where it beareth an head encloſed and round, in manner of a cabbage. Howbeit, no ſeed it carieth within: neither ſerveth the flower for any purpoſe but onely for chaplets to adorne the images of the gods. The inhabitants of Ægypt doe uſe the root in ſtead of wood, not for fewell onely, but alſo to make thereof ſundrie veſſels and utenſils in an houſe. The very bodie and pole of the Papyr it ſelfe, ſerveth very well to twiſt and weave therwith little boats: and the rinds therof be good to make ſaile-clothes, curtains, mats, and coverlets, clothes alſo for hangings, and ropes. Nay, they uſe to chew and eat it both raw and ſodden: but they ſwallow the juice onely downe the throat, and ſpit out the groſſe ſubſtance. Moreover, there is Papyrus found in Syria, about that very lake and meere whereas the ſweet Calamus abovenamed doth grow. I
Neither uſed king *Antigonus* any other ropes about the tackling of his ſhips, but ſuch as were made hereof. For as yet, the uſe of Spartum was not common. Moreover, it is not long ſince, that there was found growing in Euphrates about Babylon, this plant Papyrus; and knowne to ſerve for Paper, as well as the other in Ægypt. And yet for all that, the Parthians will not leave their old cuſtome to weave and purfle letters in their cloths, after the manner of embroderie. Now as touching the writing Paper made of Papyrus. After that they have cut it into certaine trunkes, as long or as ſhort as the ſize of their Paper, they doe devide and ſlive it with the point of a needle or bodkin for the purpoſe, into very thin plates or leaves, but they drive them as broad and large as poſſibly they can.

K

Chap. xii.

Of divers kinds of Paper: and how writing Paper is made: alſo the triall of good or bad Paper: and the glue or paſt belonging thereto.

THe beſt ſheets or leaves of Paper bee thoſe which are ſet out of the very middeſt and heart of the ſtem or ſtalke of Papyrus: and ſo conſequently better or worſe, according as they be nearer or farther from it. In auncient time the principall Paper and the largeſt, was called Hieratica, [*i.* facred or holy] becauſe it was emploied onely about religious & divine bookes. But afterwards the flatterers of the Emperour *Auguſtus*, named thoſe of the beſt ſort Auguſtæ: L
like as the ſecond Liviæ, after the name of his wife. And hereupon it came, that the Paper Hieratica was ſet in a third ranke. Next to them in goodneſſe was reputed the Paper Amphitheatrike, which name was given unto it of the place where it was made. The polliſhing and trimming of this Paper, *Fannius* tooke in hand, who ſet up a ſhop at Rome for the ſelling of it: and ſo skilfull was he and curious in the handling and dreſſing thereof, that by the time hee had done withall and brought it to a perfect fineneſſe, he made the ſame of a courſe and common Paper to bee roiall and fit for the beſt perſons that ſhould uſe it: in ſuch ſort, as there was none in any requeſt to ſpeake of, but it: & called after his name it was, Fanniana. As for that which paſſed not through his hands, nor had his workmanſhip, it retained ſtill the old bare name Amphitheatrica. After this kind of Paper, followed that which they called Saïtica, of a towne or citie in Ægypt, where M
great abundance was made thereof with the courſer peeces and refuſe of the ſaid Papyrus. And yet there was another Paper, to wit, Taniotica, ſo called of a place neare adjoining; and made of the groſſer part neare to the barke & the outſide: and this they ſold for the weight, and no other goodneſſe that it had beſides. As for the merchant Paper or ſhop-paper, called Emporetica, it

was

A was not for to write in, onely it ſerved as waſt Paper for ſarplers to wrap and packe up wares in: alſo for coffins or cornets to lap ſpice and fruits in, and therupon merchants and occupiers gave it that name. And with this, the very cane it ſelfe is to be ſeene clad outwardly: and the utmoſt coat thereof is like to a reed or bulruſh, fit for no purpoſe but to make cardage of: and not very good for that uſe neither, unleſſe it be for the water onely, which it will abide very well. Now the making of all theſe Papers, was in this ſort, namely, upon a broad bord wet with the cleare water of Nilus. For the fattie and muddie liquor thereof ſerveth in ſtead of glew, wherewith at the firſt the thin leafe of the cane Papyrus, ſlived from the reſt, and laid upon the bord to the full length (in manner of the warpe) according as the trunk will give leave, being cut off at both ends, namely, toward the top and the root, is wet and beſmeared: then is there another laid overthwart it,
B after the order of the woofe, with a croſſe graine to the other: and ſo is the web (as it were) of the Paper performed. Preſſed afterward it is in certaine preſſes, that both leaves may ſtick together: and then the whole ſheets are dried in the Sunne. Which done, they bee ſo couched together, that the beſt and largeſt lie firſt, and ſo conſequently in order as they be worſe and of leſſe ſize, untill you come to the worſt. And one ſcape or trunke lightly of the cane Papyrus, yeeldeth not above twentie ſuch ſheets. Great difference there is in them for the breadth, notwithſtanding the length be all one. The beſt, namely which were taken out of the heart of the cane, beare thirteen fingers in breadth. The Hieratica Paper wanteth two of that number. The Fannian is but tenne fingers broad. The common Paper Amphitheatrica, but nine. Saïtica yet fewer, and will not beare the ſtroke of the hammer. And as for the merchants Paper, it was ſo ſhort and narrow,
C that it went not above ſixe fingers. Moreover, in Paper theſe foure things muſt bee conſidered, that it be fine, well compact, white, and ſmooth. Howbeit, *Claudius Cæſar* the Emperour abated the credite of the Paper Auguſta, that it was no more accounted the beſt: for indeed ſo thin it was, that it would not abide the dent of the pen: beſides, it would not hold inke, but ſhew the letters on the other ſide; and was evermore in daunger of blurring and blotting, eſpecially on the backe part: and otherwiſe, unſightly it was to the eie, for that a man might ſo eaſily ſee through it. And therefore hee deviſed to fortifie and ſtrengthen the ſaid Paper, and laid another courſe or coat (as it were) over the former, in manner of a double woofe. Hee enlarged alſo the breadth of the Paper: for he cauſed it to be a foot broad, yea, and ſome a foot and an halfe, I meane that kind which was called Macrocola, or large Roiall Paper. But herein was a fault, & reaſon found it out:
D for if one leafe of this large Paper were plucked off, the more pages tooke harme thereby, & were loſt. And therfore the former Claudian Paper, which had but three leaves of Papyrus, was preferred before all the reſt. Howbeit, that which was named Auguſtane bare the name for letters miſſive, and the Liviane continued ſtill in the owne credite, having no propertie of the firſt and principall, but all in a ſecond degree. The roughneſſe of Paper is polliſhed and ſmoothed either with ſome tooth, or els with a Porcellane ſhell: but the letters in ſuch ſlicke Paper, will ſoon fade and decay. For by the polliſhing, it will not receive the inke ſo deepe as when it is not ſmoothed, although otherwiſe it will ſhine the better. Moreover, it falleth out many times, that if the humor be not artificially laid, the Paper is very ſtubborne: but this fault is ſoone found at the very firſt ſtroke of the hammer, or els diſcovered by the ſmell, eſpecially if good heed were not taken in the
E tempering thereof. As for the ſpots & ſpeckles, the eie will quickly ſpie them: but the long ſtreaks and veines lying cloſe couched betweene the paſted places, can hardly be diſcerned before that the letter runneth abroad, and ſheweth how in the ſpongeous ſubſtance of the Paper wanting that paſt, the inke will ſinke through, and make blots; ſo deceitfull is the making of this Paper. What remedie then? but to be at a ſecond labour to paſt it new againe another way, to wit, with the common paſt that we uſe, made with the fineſt flower of wheat, and tempered with hote ſcalding water, and a little vinegre mingled therewith. For the joiners glue and that made of gums, is brittle, and will not abide the rolling up of theſe ſheets into quiers. But they that will go more ſurely to worke, and make an exquiſite paſt indeed, boile the ſoft and tender crums of leavened bread in ſeething water, & then let it run through a ſtrainer, which they uſe to this purpoſe. For be-
F ſides that the Paper hereby will be more firme, and have leſſe flawes, it ſurmounteth alſo in ſweetneſſe the water of Nilus. Moreover, all kind of paſt whatſoever, for this effect, ought neither to be ſtaler than a day old, nor yet freſher and under that age. After that it is thus paſted, they beat it thin with the hammer: and a ſecond time runne lightly over with new paſt: and then being thus knit and bound faſt againe, it is made ſmooth and void of wrinckles, and finally beaten even with

the

the hammer, and driven out in length and breadth. After this manner was that Paper made, G
wherein were written the bookes and records of the two *Gracchi*, *Tiberius* and *Caius*, with their owne hands, long agoe: the which I saw in the house of *Pomponius Secundus*, a noble cittizen of Rome, and a renowmed Poet, almost two hundred yeares after their death. As for the writings of *Cicero*, of *Augustus* late Emperour of famous memorie, and of *Virgill*, wee daily see and handle them, by the meanes of Paper so good and durable.

Chap. xiii.

Of the bookes of Numa.

WE find many examples in stories, which very directly and mightily doe testifie against H
M. Varro, as touching Papers. For *Cassius Hemina* (a most faithfull and auncient writer) in the fourth book of his Annales, hath reported, That one *Cn. Terentius a scribe
or publick Notarie, as he digged and delved in a ground which he had neare to Ianiculum, light upon a chist, wherein lay the bodie of *Numa*, sometime king of Rome. In the same also were found the bookes of the said king. And (as he affirmeth) this happened in that yeare, when *Pub. Cornelius* the sonne of *Lucius*, surnamed *Cethegus*, and *M. Bæbius* sonne of *Quintus*, surnamed *Pamphilus*, were Consuls of Rome: betweene which time and the raigne of *Numa*, by just computation are reckoned 535 yeeres. He saith moreover, That those books were made of the Paper abovenamed. The greater wonder it was, how such kind of bookes should last so long, especially within the earth, and not putrifie? The thing therefore being so strange, and in manner miraculous, that Paper should continue all that time, I thinke it not amisse to set downe the very words I
of *Hemina* himselfe, as he delivereth them. The world made a wonder (quoth he) how those books could possibly endure so many yeares? but the partie who found them yeelded this reason: That within the said coffer about the middest of it, there was a stone foure-square, lapped all about and bound every way with [waxe] candles in manner of a serecloth: upon which stone, the foresaid books were laid: and therfore it was (as he supposed) that they did not rot. Moreover, the books also were embaulmed with the rosin or oile of Cedar, which might be a good reason in his conceit, that the moths came not to them. Now these books contained the Philosophie and doctrine of *Pythagoras*: and for that they treated of that Philosophicall argument, burnt they were, by order from *Q. Petilius* the Pretour for that time being. The same storie in effect doth *C. Piso Censorinus* (a man who had been Censor) report in the first booke of his Commentaries: howbeit, K
he setteth downe their number withall: and saith they were foureteene in all, whereof seven treated of the Pontificall law, and matters of religion; and as many discoursed of *Pythagoras* his Philosophie. But *Tuditanus* in the thirteenth booke of the Annales affirmeth, That they were the decretals onely of *Numa*, and contained his ordinances. As for *Varro* himselfe, he writeth in the fift booke of Humane Antiquities, that they were in all but twelve. And *Antias* in his second booke reporteth, That two of them were written in Latine, and contained the Pontificiall divinitie and church-matters: and other twaine penned in Greeke, were full of precepts in Philosophie. He also affirmeth in his third booke, for what cause the said bookes by vertue of a publicke decree were consumed with fire. But all Historiographers agree in this, That one of the *Sibyls* brought unto *Tarquinius* the prowd three books: of which, two were burnt by her own selfe: L
and the third likewise perished with fire, together with the Capitoll, during the troubles of *Silla*. Over and besides, *Mutianus*, a man who had ben thrice Consull of Rome, hath left upon record, that of late, while he was lord governour of Lycia, hee red in a certaine temple an Epistle written by prince *Sarpedon* in Paper, and bearing date from Troy. And I wonder the rather at this, if so be that when *Homer* lived and wrate his Poëme, there was no land of Ægypt as now there is: or why, in case there was such use of Paper then, himselfe should write, that in the very same Lycia, *Bellerophon* had writing tables given him to deliver as touching his owne death, and not rather letters missive written in Paper? Well, howsoever that bee, this is certaine, that there is a scarsitie
otherwhiles of Paper also, as well as of other commodities: and this cane or reed Papyrus doth M
many times faile. For not long since, even in the daies of *Tiberius* the Emperor, in a dearth and want of Paper, there were commissioners deputed and appointed by the Senate of Rome, for the dispensing and distribution of it among the people: otherwise there had been a great mutinie and tumult at Rome about Paper.

*L. Petilius. Livie.

Chap.

A

Chap. XIIII.

Of the trees in Æthiopia.

AS touching Æthiopia, and namely that quarter which confineth upon Ægypt, it hath in manner no trees at all of any name, ſave thoſe that beare wooll or cotton: concerning the nature of which trees, we have ſufficiently ſpoken in the deſcription of the Indians, and of Arabia: and yet in very truth, the cotton that is brought from theſe trees in Æthiopia, commeth nearer to wooll than any thing els; howſoever the trees be otherwiſe like to the reſt of that kind: and the burſe or cod wherein this woollie ſubſtance lyeth, is greater, and as big as a Pomegranat. Beſides theſe, there be Date trees alſo, like to ſuch as we have before deſcribed. As touching other trees, and eſpecially the odoriferous woods within the Iſles that lie upon Æthiopia round about, we have ſaid enough in the treatiſe of thoſe Ilands.

B

Chap. XV.

Of the Trees growing in mount Atlas: of Citron tables: of the commendable perfections, and contrariwiſe of the defaults thereof.

THe mountaine Atlas (by report) hath a wood in it of peculiar trees that elſewhere grow not, wherof we have alreadie written. The Mores that border upon it, are ſtored with abundance of Citron trees: from whence commeth that exceſſive expenſe and ſuperfluitie about Citron tables made thereof. And our dames and wives at home (by way of revenge) uſe to twit us their husbands therewith, when we would ſeeme to find fault with the coſtly pearls that they doe weare. There is at this day to be ſeene a board of Citron wood, belonging ſometimes to *M. Tullius Cicero*, which coſt him ten thouſand Seſterces: a ſtraunge matter, conſidering he was no rich man: but more wonderfull, if wee call to mind the ſeveritie of that age wherein hee lived. Much ſpeech there is beſides of *Gallus Aſinius* his table, ſold for eleven thouſand Seſterces. Moreover, there are two other, which K. *Iuba* ſold: the one was priſed at 15000 Seſterces, and the other held little under. Not long ſince, there was one of them chaunced to be burnt, and it came with other houſhold ſtuffe but from the cottages in Mauritania, which coſt 140000 Seſterces: a good round ſumme of money, and the price of a faire lordſhip, if a man would be at the coſt to purchaſe lands ſo deare. But the faireſt and largeſt table of Citron wood, that to this day hath beene ſeene, came from *Ptolomæe* king of Mauritania, the which was made of two demie-rounds or halfe circles, joyned togither ſo artificially, that for the cloſeneſſe of the joynt (which could not be diſcerned) it was more admirable than poſſibly it could have beene if it had beene naturally of one entire peece: the diameter of it caried foure foot and a halfe, and three inches thicke it was. Likewiſe another ſuch table there was, ſurnamed Nomien, of one *Nomius* a ſlave, enfranchiſed by *Tyberius* the Emperour: the ſquare or diametre whereof, was foure foot within three quarters of an inch; and the thicknes halfe a foot lacking ſo much. And here I cannot forget and overpaſſe, how that the Emperour *Tyberius* himſelfe had a table, which being two inches & three quarters above four foot in the diametre, & an inch and an halfe thick throughout, he cauſed to be plated all over, for that *Nomius* his freed ſervant had one ſo rich and magnificent, made altogither of a knot: a knot (I ſay) or a knur in the root of the tree, which is the very beautie of the wood, and giveth all the grace to the tables made therof; and namely, if this knot lie altogither within ground, it is without compariſon excellent, and farre more rare and ſingular than any of the timber above, either in the trunke and bodie, or in the armes and boughes of the tree. So that (to ſay a truth) this coſtly ware bought ſo deare, is no better than the ſuperfluous excreſcenſe of trees: the largeneſſe whereof, as alſo of their roots, may be eſteemed by the roundnes that they carrie. Now are theſe Citron trees much like to the female Cypreſſe (eſpecially that of the wild kind) in leafe, in ſmell, and in bodie. A mountaine there is in high Mauritania, called Anchorarius, which was wont to yeeld the beſt and faireſt Citron trees, although now it be naked and deſpoiled of them. But to return to our tables aforeſaid; the principall be they which are either criſped in the length of the veine, or beſet here and there with winding ſpots. In the former, the wood curleth in and out along the graine; and therefore ſuch be named Tigrinæ, [*i.* Tigre-tables.] In the other, there be repreſented ſundrie tufts as it were enfolded

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folded and enwrapped round, and thoſe they call Pantherinæ, [*i.* Panther, or Luzerne tables.] There be againe, whereof the worke in wainescot reſembleth the waves of the ſea: and the better grace they have, and bee more eſteemed, if they make a ſhew of the eies appearing in Peacockes tailes. Next in requeſt and account to theſe abovenamed, bee thoſe that are friſled with ſmall ſpots ſtanding thicke, as if many graines were gathered together, which they call thereupon (of ſome reſemblance of litle bees or flies) Apiatæ, as if they were ſpeckled and filed with their dung. But be the worke and grain of the wood what it will, the colour maketh all. Here at Rome wee ſet moſt ſtore by that colour which is like to mead or honied wine, ſhining and glittering in the veines of the wood. After which conſiderations, men regard much the breadth and largenes of the whole plant, ſtanding of one entire peece which maketh the table. Some take a great pleaſure to ſee in one Citron bourd many of thoſe faults which bee incident to trees, to wit, the Lignum, for ſo they call the ſimple, plaine, and bare wood and timber without any branched or curled graine at all, without a ſhining luſtre and glittering gloſſe, without worke to be ſeene in any order digeſted, or at the moſt (if any bee) repreſenting the leaves of a Plane tree. Againe, the reſemblance either of the veine or colour of a kind of Oke wood called Ilex. Moreover, the rifts and chinkes which timber is ſubject unto, by reaſon principally of wind and Sunnes heat: or elſe hairie ſtreakes that be like to ſuch clifts and creviſſes. Afterwards men were delighted with a kind of Lamprey veine traverſing and running over a blacke croſſe way: and with an outward skin or coat marked with ſpeckes or knottie knurs, like to Poppie heads: and generally with a colour all over, comming neare to blacke, or at leaſtwiſe beſpotted with ſundrie colours. The Barbarians for to ſeaſon the wood of this Citron tree, uſe to burie the greene bourds or plankes thereof within the ground, and beſmeare them all over with waxe. But the artificers and workemen doe put them for ſeven daies within heapes of corne, and ſtay ſeven daies more ere they be wrought: and a wonder it is incredible, how much of the weight the wood loſeth by this meanes. Moreover, of late daies wee have found the experience by ſhipwrackes, that this timber alſo will by nothing in the world be ſooner dried nor hardened to laſt a long time without corruption, than by ſeawater. Howbeit, to maintaine theſe tables beſt, and to cauſe them for to ſhine bright, the way is to rub them with a drie hand, eſpecially after that a man is newly come out of the baines or hot houſe. Neither catch they any harme or ſtaine, if wine bee ſpilt thereupon: ſo as it ſhould ſeeme they were naturally made for wine. To conclude, a tree this is ſerving for the ornaments of this life, and the trim furniture of our houſe, few or none like to it: and therfore me thinks I do not amiſſe to continue the diſcourſe thereof ſomewhat longer than ordinarie.

G H I K L M

Chap. xvi.

Of the tree Thya, what it is.

WEll knowne unto *Homer* was this Tree, which in Greeke is named * Θύον, but ſome call it Thya: for among other daintie odors and ſweet woods, he reporteth, That dame *Circe* (whome he would have to be reputed as a goddeſſe) burnt of this Thyon. And therefore much deceived are they, who underſtand by that word Thyon, perfumes and odoriferous ſpice, conſidering that in one and the very ſame verſe, the Poët maketh mention of the Cedar and Larch tree togither with Thyon, whereby it appeareth plaine, that he ſpake of trees only. *Theophraſtus*, who after the daies of *Alexander* the Great, was the firſt that wrate the hiſtory of thoſe acts which happened about the 440 yeere from the foundation of Rome, gave great honour even then to this Tree, and reported, That all carpenters worke of temples in old time, was made of the ſame; as of a timber everlaſting, and which in rouſes would continue without all putrefaction and corruption whatſoever. Moreover, he writeth, That the wood of the root is ſo curled and friſled, as none more; and that of no timber beſides are more curious peeces of workes made, nor of greater price. Over and beſides, he ſaith, That the faireſt and goodlieſt trees of this kind, doe grow about the temple of *Iupiter Hammon*: and ſome of them alſo within the countrey Cyrenaica toward the inland parts. But all this while not a word of the foreſaid coſtly tables ſpeaketh he in his whole hiſtorie: and verily before that of *Ciceroes*, there is no record in writers of any ſuch tables: whereby it appeareth, that they be come up but of late daies. Another tree there is likewiſe of that name, bearing an apple or fruit, which ſome cannot abide for the ſtrong ſavour and bitternes withall, others againe like and love it as well. This tree alſo beautifieth and ſetteth out the houſe, but I purpoſe not to beſtow many words more thereof.

Chap.

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Chap. xvii.

Of the tree Lotus.

IN the ſame coaſt of Affrick which regardeth Italie, there groweth Lotos, which they call Celtis. A notable tree it is and of ſpeciall marke: found alſo here among us now in Italy; but togither with the ſoile, it hath chaunged the nature. The faireſt and goodlieſt of them be about the Syrtes and the Naſamones: they be as big and tall as Peare trees, howſoever *Nepos Cornelius* ſaith, they are but little and low. The leaves bee thicke cut and endented: otherwiſe they were like to thoſe of the Ilex or Holme tree. Many ſorts there be of the Lote tree, and thoſe for the
B moſt part according to their divers and ſeverall fruits. Howbeit ordinarily the fruit is as big as a Beane, and of yellow colour as Saffron; yet before it is full ripe, it chaungeth into ſundry colors, like as grapes doe. It groweth thicke among the branches of the tree, in manner of Myrtle berries, and not like to the cherries of Italie: and in thoſe plants above named, the meat thereof is ſo ſweet and pleaſant, that it hath given the name both to a nation and a countrey, inſomuch as the people be called Lotophagi: and withall, ſo welcome be all ſtraungers thither, and ſo well contented with their entertainment, that they forget their own native ſoile, for the love they have to this fruit, when they have once taken to it. By report, whoſoever eateth thereof, is free from the diſeaſes of the bellie. This fruit is counted the better, which hath no kernell within; for there is another kind wherein the ſaid kernell ſeemeth as hard as a bone. Moreover, out of this fruit
C there is preſſed a wine like to Mede, which the above-named *Nepos* ſaith, will not laſt above ten daies: who reporteth beſides, That the inhabitants doe ſtampe the berries thereof with wheat or frumentie into a paſt, and ſo put it up in great barrels and ſuch like veſſels for the proviſion of their food. Moreover, we have heard ſay, that whole armies paſſing too and fro through Africk, have fed thereof, and had no other meat: the wood is blacke of colour, and much ſought for it is to make Pipes and Fifes: of the root thereof, the hafts of daggers and knives be made, beſides other pretie deviſes of ſmall uſe. Thus much as touching the nature of the Lote tree in thoſe parts: for there is an hearb alſo of that name [called Melilote.] As for the Ægyptian Lotus it is a plant bearing a ſtalke, and groweth in the mariſhes of Ægypt. For when the waters of Nilus are falne, which drenched the countrey, this plant commeth up in the flat & waterie levell along
D the river, with a ſtemme like unto the [Ægyptian] Beane, with leaves thruſt cloſe and thicke togither, howbeit ſhorter and leſſe than thoſe of the Beane: in the top of which ſtalke, it beareth fruit in manner of an head, for cuts and chamfres and every thing elſe like to thoſe of the Poppie: within which, there be conteined certaine graines or ſeeds reſembling Millet. The inhabitants of that countrey doe pile togither in heapes, thoſe heads, and ſo let them putrifie: afterwards, they ſeparate them, waſh them faire, and when they be drie, ſtampe and mould them, and thereof make their bread. A ſtraunge and wonderfull thing it is that is reported beſides; namely, That when the Sunne goeth downe, thoſe heads cloſe up and be covered with leaves, and remaine ſhut untill the morning; at what time they open againe: and thus continue this courſe untill they be ripe, and that the flower which is white, doth fall of it ſelfe.

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Chap. xviii.

Of the very ſtalke, ſcape or ſtemme, and root of Lotus.

IT is ſaid moreover as touching this Ægyptian Lotus, that in Euphrates the very head of the ſtalke together with the flower, uſeth in the evening to be plunged and drowned under the water untill midnight, and ſo deepe to ſettle toward the bottome, that a man with his hand cannot reach thereto, nor find any part of it: but after that time, it beginneth to riſe by little and little, and by Sun-riſing appeareth above water, and openeth the flower, & ſtill mounteth higher and higher a good height from the water. This Lotos hath a root as bigge as a Quince, covered
F with a blacke rind or barke, much like to the huske of a Cheſtnut. The ſubſtance within, is white and delectable to eat, but more pleaſant beeing either ſodden in water, or roſted under embres, than raw: and Hogs will feed fat with nothing better, than with the pills and parings of this root.

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Chap. xix.

Of Paliurus, the Pomegranate, and the flower of the Pomegranate.

THe region Cyrenaica in Affricke, maketh more account of their Paliurus than of Lotus: for the Paliurus ſhooteth forth more twigs and braunches, and hath a redder fruit than the Lotus. Beſides, the fruit and the kernell be eaten apart: and in truth, pleaſant it is of it ſelfe alone, but more pleaſant with wine; yea and the juice thereof giveth a better taſt to wine, if it be put into it. The inland parts of Affricke (as farre as to the Garamants and the deſerts) bee well planted with Date trees faire and great, bearing goodly and pleaſant Dates, and thoſe eſpecially in that quarter of Barbarie which lieth about the temple of *Iupiter Hammon*. But the territorie H of Carthage challengeth to it ſelfe the Punicke apple: ſome call it the Pomegranat: and they have made ſeverall kindes thereof, calling that Apyrinon, which hath no woodie or hard kernell within: and indeed, theſe Pomegranats are naturally more white, the graines within more pleaſant, and divided with membranes and pellicles betweene, nothing ſo bitter as the other: for in both ſorts they bee framed and faſhioned within, like to honey-combes. As for thoſe Pomegranates which have ſuch kernels or ſtones, there bee five kinds of them, to wit, ſweete, ſower, temperate betweene both, ſtypticke or auſtere, and taſting of wine. But the Pomegranats of Samos and Ægypt, have this difference one from another, That ſome have red flowers on the head, and be therefore called Erythrocoma: others are white, and ſuch they name Leucocoma. The rind of ſower Pomegranats, is better for tanners and curriours to dreſſe their leather I with, than of the reſt. The flower is called Balauſtium, both medicinable and alſo good for to die cloth; and hereof commeth the colour Puniceus [*i.* a light red or a bay] taking the name of the apple Punicke or Pomegranate.

Chap. xx.

Of the Shrubs in Aſia and Greece.

IN Aſia and Greece there grow certaine ſhrubs, to wit, Epipactis, which ſome call Elleborine, with ſmall leaves, which being taken in drinke are good againſt poiſon, like as the leaves alſo of *Erice withſtand the ſtinging of ſerpents. K

*i. Heath, or Lings.

Chap. xxi.

Of Thymelæa or Chamelæa, Tragacanth, of Tragium or Scorpio. Alſo of Myrice, Brya, and Galla.

THe ſhrub or buſh which beareth the graine Gnidium, that ſome call Linum, is after ſome writers named Thymelæa, according to others Chamelæa: there bee that call it Pyrosachne: ſome againe give it the name of Cneſton, others of Cneoros. This plant howſoever it be named, reſembleth the wild olive, but that the leaves be narrower and gummie to the teeth, if a man bite them: for height and bignes anſwerable to the Myrtle: the ſeed thereof is for L colour and faſhion, like to the graine of wheat, and ſerveth onely for Phyſicke.

As touching the plant Tragium, it is to be found in the Iland Candie only. It hath a reſemblance of the Terebinth, like as the ſeed alſo, which (by report) is moſt excellent and effectuall to heale wounds made by darts or arrowes. The ſame Iland hath the buſh Tragacanth growing in it, the root whereof is like to that of Bedegnar: and the ſame Tragacanth is much preferred before that which groweth either in Media or Achaia. A pound of Tragacanth is worth thirteen deniers Romane. As for the plant Tragium or Scorpio, it groweth likewiſe in Aſia. A kind of bramble or brier it is without any leaves, bearing fruit of berries much like to red grapes, wherof there is good uſe in Phyſicke.

Touching Myrice, which others call Tamarix; and Achaia Brya the wild; Italie bringeth it M forth: this ſpeciall propertie it hath, that the tame kind therof only, namely that which groweth in gardens, beareth a fruit like the galls. In Syria & Ægypt this groweth plenteouſly, & the wood thereof we call Vnhappie: but the more unluckie & unfortunate be thoſe of Greece: for there groweth Oſtrys, named alſo Oſtrya, a ſolitarie tree about waterie and moiſt rocks, having barke

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A and braunches like to the Ash, but Peare-tree leaves, save that they be somewhat longer & thicker, with long cuts or lines wrinkled and riveled throughout: and the seed in forme and colour is like to barley. The wood of it is hard and strong: and some say if any peece therof be brought into an house where a woman is in travaile of child-birth, shee shall have difficult labour, and hardly be delivered: and whosoever lyeth sicke there, shall die a miserable death.

Chap. xxii.

Of Euonymus or the Spindle tree of Adrachne, Congygria, and Thapsia.

B IN the Iland Lesbos, there groweth a tree named Euonymos, no better nor more luckie than Ostrya beforesaid. Much unlike it is not to the Pomegranate tree. As for the leafe that it beareth, it is of a middle size betweene that of the Pomegranat and the Bay; otherwise for shape and softnesse, it resembleth that of the Pomegranat: the flower is whiter; the smell & tast whereof is pestiferous and menaceth present death: it beareth cods like to Sesama, within which be graines or seeds foure square and thicke, but deadly unto all creatures that eat them. The leafe also is as venimous as the graine, yet otherwhiles there ensueth thereof a fluxe and gurrie of the belly, which saveth their life, or else there were no way but one.

Alexander Cornelius called that tree * Eone, whereof the famous ship Argo was made; and like it was (by his saying) to the Oke that carrieth Misselto, the timber whereof neither water will C putrifie, nor fire consume, no more than the Misselto it selfe. But so farre as ever I could learne, no man knew that tree but himselfe. * Or, *eiona.*

As for the tree Adrachne, all the Greekes in manner take Porcellaine for it; whereas indeed Porcellaine is an hearb, called in Greeke *Andrachne*; so as they differ in one letter: but Adrachne is a tree of the wild forrests growing upon mountaines, and never in the plaines beneath; resembling the Arbut or Strawberrie tree, save that the leaves be lesse, and never fade nor fall. And for the barke, rough and rugged indeed it is not, but a man would say it were frozen and all an yce round about, so unpleasant it is to the eye.

Like in leafe to Adrachne, is the tree Congygria, but otherwise it is lesse and lower. This propertie it hath, To loose the fruit wholly, together with the soft downe that it beareth, which they D call Pappus; a qualitie that no other tree hath, beside it. Like to Adrachne also is Apharce, and beareth fruit twice in one yeere, as well as it. The former is ripe, when the grape beginneth to bud and bloom; the latter, in the beginning of winter: but what manner of fruit this should be, I have not found written.

As touching the Ferula, it will not be amisse to speake thereof among forrein plants, yea and to raunge it among trees: for (as hereafter we will distinguish in the division of trees) some plants are of this nature, To shew all the wood they have, where the barke should be; that is to say, without-forth: and where the heart of the wood ought to be, they have nought but a light and spongeous pith, as the Elder; or els nothing at all, as Canes and Reeds. But to come to our Ferula before-named, it groweth in hot countries beyond-sea, with a stalke or stem full of knottie joints. E Two kinds be knowne of them: for that which the Greeks call Narthex, groweth tall; but Narthecia is alwaies low. The leaves that put forth at the joynts, be ever biggest toward the ground: this plant otherwise is of the nature of Dill, and the fruit is not unlike. There is not a plant in the world lighter than it for the bignesse: being easie therefore to weld and carrie, the stem thereof serveth old men in stead of staves, to rest upon. The seed of this Ferula or Fenell-gyant, some have called Thapsia, but herein they be deceived, for that Thapsia doubtlesse is a kind of Ferula by it selfe, leafed like Fenell, with an hollow stalke, and never exceedeth in height the length of a walking-staffe: the seed is like to that of the Ferula, and the root white: cut it, there issueth forth milke; stampe it, you shall see it yeeld plentie of juice. Neither is the barke of the root rejected and cast aside, although both it, the milke, and the juice, be very poisons: for surely the root is F hurtfull to them that digge it up; and if never so little of the aire thereof breath upon them (so venomous it is) their bodies will bolne and swell, their faces will be all overrun with a wild-fire: to prevent which mischiefes, they are forced to annoint their bodies with a receit. Howbeit as dangerous as they be, Physicians make use therof in the cure of many inward diseases, so they be well corrected and tempered with other safe medicines. In like manner they say, that the juice of

Thapſia is ſingular good for the ſhedding and falling of the haire; alſo againſt the blacke and blew marks remaining after ſtripes: as if Nature furniſhed not Phyſicians ſufficiently with other holeſome remedies, but that needs they muſt have recourſe to ſuch poiſonfull and miſchievous medicines. But this is the caſt of them all, to pretend ſuch colourable excuſes, for their handling of poiſons: and ſo impudent and ſhameleſſe are ſome beſides, that they baſh not to avow the uſe of them; bearing us in hand, that Phyſicke cannot ſtand without poiſon. The Thapſia in Affricke is the ſtrongeſt of all others. Some uſe to ſlit or cut the ſtem about harveſt, and in the very root make an hollow trough to receive the juice that runneth downe, and when it is dried, they take it away. Others againe doe bruiſe and ſtampe in a mortar, both leafe, ſtalke, and root; and when the juice that is preſſed there-from, is throughly dried in the Sunne, they reduce the ſame into certaine Trochiſques. *Nero Cæſar* the Emperour in the beginning of his Empire, gave great credit unto Thapſia: for uſing (as he did) to be a night-walker, and to make many ryots and much miſrule in the darke, he met otherwhiles with thoſe that would ſo beat him, as that hee carried away the markes blacke and blew in his face: but (as he was ſubtill & deſirous to avoid the ſpeech of the people) an ointment he had made of Thapſia, Frankincenſe, and Waxe, wherewith hee would annoint his face, and by the next morning come abroad with a cleare skin, and no ſuch markes to be ſeene; to the great aſtoniſhment of all men that ſaw him. To conclude, the Ferula maketh the beſt matches to keepe fire, by all mens confeſſion: and thoſe in Ægypt excell the reſt, for that purpoſe.

Chap. xxiii.

Of Capparis, or Cynosbatos, or Opheoſtaphyle: and of Sari.

LIkewiſe in Ægypt groweth Capparis, a ſhrub of a harder and more woodie ſubſtance: well knowne for the ſeed and fruit that it carrieth, commonly eaten with meats, and for the moſt part the Capres and the ſtalke are plucked and gathered togither. The outlandiſh Capres (not growing in Ægypt) wee muſt take good heed of and beware: for thoſe of Arabia be peſtilentiall and venomous: they of Affricke be hurtfull to the gumbs, and principally the Marmarike are enemies to the matrice, and breed ventoſities. The Apulian Capres cauſe vomit, and make lubricitie both of ſtomack and bellie. Some call the ſhrub Cynosbatos: others, Opheoſtaphyle. Moreover, there is a plant of ſhrubs kind, called Sari: it groweth along Nilus, almoſt two cubits high, it beareth an inch in thickneſſe, and hath leaves like to Papyr-reed, and men do chew and eat it after the ſame manner. As touching the root, it is ſingular good for Smithes cole to burne in their forges, ſo hard it is and durable.

Chap. xxiiii.

Of the Royall thorne of Babylon: and of Cytiſus.

I May not over-paſſe that plant, which about Babylon is ſowed upon Thornes onely: for otherwiſe it knoweth not how to live no more than Miſſelto, but upon trees: howbeit this plant that I ſpeake of, is ſowed upon that Thorne alone called the Royall Thorne. And a ſtraunge thing it is of this plant, That it ſpringeth and groweth the very ſame day that it is ſet or ſowed. Now the ſeaſonable time of ſowing it, is at the very riſing of the Dog-ſtarre: and notwithſtanding the Sunnes heat, right quickly overſpreadeth it the tree or ſhrub, on which it is caſt. The Babylonians uſe to aromatize their wine therewith; and for that purpoſe are they ſo carefull to ſow it. But the foreſaid Thorn tree groweth alſo about the long walls of Athens [reaching from the tower to the haven Pyræum.]

Moreover, a ſhrub there is, called Cytiſus, highly commended and wondrous much praiſed by *Ariſtomachus* the Athenian, for feeding of ſheep; as alſo for fatting of ſwine, when it is drie: and he promiſeth and aſſureth, That an acre of land ſowed therewith, although it be none of the beſt ſoile, but of a meane and ordinarie rent, will yeeld yeerely [*communibus annis*] 2000 Seſtercesto the maſter. As great profit commeth thereby, as of the pulſe like Vetches, called Ervum: but ſooner will a beaſt be ſatisfied therewith, and a very little thereof will ſerve to fat the ſame: inſomuch as if horſes or any ſuch labouring cattell may meet with that provender, they will not care for barley: neither is there any other graſſe or fodders, that yeeldeth more or better milke,

A milke than it: but that which passeth all, the pasturage of Cytisus, preserveth Sheepe, Goats, and such like cattell, sound and safe from all diseases whatsoever. Over and besides, if a nource want milke, *Aristomachus* prescribeth her to take Cytisus drie, and seeth it in water, and so to drinke it with wine: whereby not onely her milke will come againe in great plentie, but the babe that sucketh thereof, will bee the stronger and taller. Hee giveth it also to hens and pullein whiles it is greene, or steeped and wet, if it chance to bee drie. *Democritus* and *Aristomachus* both doe promise and assure us, that Bees will never miscarie nor faile, if they may meet with Cytisus to feed upon. And yet there is not a thing of lesse charge to maintaine than it. Sowne it is commonly in the Spring with Barley, I meane the seed thereof, as they use to sow leekes or porret seed: or else they set plants and slips thereof from the stalke, in Autumne
B before midwinter. If the seed be sowne, it ought to be steeped and moistened before: yea, and if there fall no store of raine after it is in the ground, it had need to be watered. As for the plants when they be a cubite long, are replanted in a trench a foot deepe. Otherwhiles the tender quicksets are planted about the Æquinoxes, to wit, in mid March and mid-September. In three years they come to their full growth. They use to cut it downe in the Spring-Æquinox: when it hath done flouring: a worke that a very lad or old woman may doe, even such as can skill of nothing els besides. This Cytisus is in outward hew white: and in one word, if a man would pourtray the likenesse thereof, it resembleth for all the world a shrub of Trifolie or Clavergrasse, with narrower leaves. Being thus gathered, it is ever given to beasts once in three daies. And in winter, that which is dried ought to be wet before they have it. Ten pound of it is a sufficient foddering for an
C horse: and for other small cattell according to the proportion. But by the way, this is not to be omitted, that it is good to set Garlicke and sow Onions seed betweene the rewes and rankes of Cytisus where it groweth, and they will thrive more plenteously. This shrub was first discovered and knowne in the Island Cythnus, and from thence translated into all the other Islands Cyclades: and soone after brought to all the cities of Greece; whereupon followed great increase of milke, and plentie of cheese. I marvell therefore very much, that it is so geason and rare in Italie: and a plant it is that feareth neither heat nor cold; no injurie of haile, nor offence by snow; and as *Hyginus* saith, it is not afraid so much as of the enemie; the reason is, because the wood thereof is nothing beautifull to the eie.

D

Chap. xxv.

Of shrubs and trees growing in our Mediterranean sea, in the red sea, and the Indian sea.

EVen the very sea affourdeth shrubs and trees: but those of the Mediterranean sea bee farre lesse than of other seas: for the red sea and all the Levant Ocean is full of woods. That which the Greekes call φῦκος, hath no other name in any language. As for Alga, is a word appropriate rather to weeds or sea-hearbes, called Reik: but this Phycos is a very shrub, bearing broad leaves of a greene colour, which some call Prason, others Zoster. A second kind there is of Phycos, with an hairie leafe like to Fennell, and groweth upon rockes. As for the former called Zo-
E ster, it is found among the shelves and shallow waters not farre from the shore: both the one and the other appeare in the Spring, and be gone in the Autumne. That of this kind which groweth in Candie about the rockes, is much used of diers for the purple colour: and namely, on the North part of that Island, and among sponges, for that is most commendable for this purpose. A third sort there is like unto the grasse called *Coich* or *Dent-de-chien*, having a root full of joints and a stalke likewise, in manner of a reed.

Another shrub there is in that sea called Bryon, with leaves of Lettice, save onely that they be more wrinckled and crumpled together: but this groweth more inward and farther into the sea. Marie in the deepe, groweth both Firre and Oke to the height of a cubite. Among these braunches, the Cockles and Muskles, and such like shell-fishes doe settle and sticke unto them. As for
F that kind of sea Oke, some say it is of good use to die wooll withall: as also that it beareth mast or acornes in the deepe: the knowledge of all which we come unto by those that dive into the bottome of the sea, and such as have suffered shipwracke and escaped. Moreover (by report) there be other exceeding great trees, and namely about Sycione. As for the sea vine, it groweth every where: but the fig-tree there is without leaves, & hath a red barke. There be also Date trees found

in the ſea: but as little as ſhrubs. Without *Hercules* pillars, or the ſtreight of Gebraltar, there are G
ſhrubs to bee ſeene, bearing leaves reſembling Leeke blades: and others leaved like to the Bay tree, or to the hearbe Thyme: and both kinds being caſt up a land, turne into the pumiſh ſtone. But in the Eaſt parts it is a wonderous matter to thinke, that ſo ſoone as ever a man is paſt Coptus, he ſhall find nothing to grow in all the wilderneſſe, but onely a kind of thorne or thiſtle, called the thirſtie or drie thorne, and the ſame but here and there, in very few places: whereas in the red ſea, whole woods doe live, and namely, of Baies and Olives bearing their berries: alſo when it raineth, certaine Muſhromes, which no ſooner bee caught with the Sunnes heat, but they turne into the pumiſh ſtone. As touching the ſhrubs there growing, they be commonly three cubites high, and thoſe ſo full of ſea dogs and curres, that a man ſhall hardly looke out of the ſhip in ſafetie, for that many times they will take hold of the very oares, and aſſaile them. The ſoldiors of H
Alexander the Great who ſailed into India, made report, That the branches and leaves of the ſea trees, ſo long as they were under the water looked greene, but when they be taken forth, preſently dried with the heat of the Sunne, and became ſalt. Alſo that about the ſhore they found ſtonie ruſhes and reeds, like unto naturall ruſhes indeed. Moreover, in the deepe ſea they light upon certaine little trees braunched and full of boughes, in colour of an Oxe horne, but the head or top of them was red: handle them in your hand, they were as brittle as glaſſe: put them into the fire, they would bee red hote like yron: quench them againe, they returned to their former colour. In the ſame tract, there bee ſome tides ſo high, that the ſea overfloweth and covereth the woods growing within the Iſlands, although there be trees in them taller than the higheſt Planes or Poplars. And thoſe trees bear leaves like Lawrell, and flowers for ſmell and colour reſembling I
the Violet. Their berries bee like to Olives, and thoſe of a pleaſant and ſweet ſavor, which they bring forth in the Autumne: and their leaves never ſhed but continue all the yeare long. The lower ſort of theſe trees the floud covereth all and whole: but the greateſt beare up their heads above the ſea, whereunto the mariners doe faſten and tie their veſſels, at a high water: but when it is ebbe, at the very root. Moreover, by their ſaying they ſaw other trees in the ſame ſea, with leaves ever greene upon them, carrying a fruit like to Lupines. King *Iuba* reporteth, That about the Iſlands of the Troglodites there groweth a ſhrub within the ſea, called Iſidos Plocamos, [*i. Iſis* haire] reſembling corrall, and void of leaves: cut a braunch of it from the ſtock, it becommeth hard, changeth colour and is blacke: if it fall, it is ſo tender, that it will breake like glaſſe. Hee ſpeaketh moreover of another called Charito-blepharon, which is of great force in amatorious matters to procure love: And thereof women (quoth hee) make them carkanets and K
pendant ornaments to hang about their neckes. To conclude, he affirmeth, that this ſhrub hath a certaine intelligence when a man would take hold of it, and therefore waxeth as hard as an horne, inſomuch as it is able to turne the edge of a knife or bill, that unneath or hardly it may be cut: but in caſe it be entrapped and drawne up with cords without any edge toole, it preſently turneth to be a ſtone.

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M

THE

THE XIIII. BOOKE OF THE HISTORIE OF NATVRE,

WRITTEN BY C. PLINIVS SECVNDVS.

Containing the Treatiſe of Trees bearing fruit.

The Proëme.

Thus farre forth have wee diſcourſed of all forraine and ſtraunge trees in a manner; ſuch I meane as know not how to live in any other places but where they naturally firſt did grow, and which willingly goe not into other countries, nor can abide their ſoile or aire. Good leave may I now have to write of Plants and Trees common to all lands, and namely, to ours of Italie, which may ſeeme to bee the very Hort-yard and naturall garden that bare them all. This onely would I advertiſe the readers and learners to remember, that for this preſent we purpoſe to deſcribe their natures and vertues onely, leaving out the manner of husbandrie that belongeth unto them: albeit in their tending and keeping appeareth the greateſt part of their properties, and of Natures workes. And verily, I cannot chuſe but marvell ſtill and never give over, how it comes to paſſe, that the remembrance, yea, and the very names of ſome trees which auncient writers have delivered in their bookes, ſhould bee quite gone and aboliſhed. For who would not thinke, that our life ſhould ere this have gained much by the majeſtie of the Roman Empire; have diſcovered all things by the meanes of the commerce we have had with the univerſall world, by the trafficke, negotiation, and ſocietie I ſay that we have entred into during the bleſſed time of peace which we have enjoied? conſidering that by ſuch trade & entercourſe, all things heretofore unknown, might have come to light. And yet for all this, few or none (beleeve me) there are who have attained to the knowledge of many matters which the old writers in times paſt have taught and put in writing. Whereby we may eaſily ſee, that our auncеſtors were either farre more carefull and induſtrious, or in their induſtrie more happie and fortunate. Conſidering withall, that above two hundred years paſt Heſiodus *(who lived in the very infancie of learning and good letters) began his worke of Agriculture, and ſet downe rules and precepts for husbandmen to follow. After whoſe good example, many others having travelled and taken like paines, yet have put us now to greater labour. For by this meanes wee are not onely to ſearch into the laſt inventions of later writers, but alſo to thoſe of auncient time, which are forgotten and covered with oblivion, through the ſupine negligence and generall idleneſſe of all mankind. And what reaſons may a man alledge of this drowſineſſe, but that which hath lulled the world aſleepe? The cauſe in good faith of all, is this and none other, Wee are readie to forgoe all good cuſtomes of old, and to embrace novelties and change of faſhions: mens minds now adaies are amuſed and occupied about new fangles, and their thoughts bee rolling; they wander and rove at randon; their heads be ever running; and no arts & profeſſions are now ſet by and in requeſt, but ſuch as bring pence into our purſes. Heretofore whiles kings and potentates contained themſelves within the dominion of their owne nations, and were not ſo ambitious as now they bee, no marvell if their wits and ſpirits kept ſtill at home: and ſo for want of wealth and riches of fortune, were forced to employ and exerciſe the gifts of their mind: in ſuch ſort as an infinite number of princes were honored and renowned for their ſingular knowledge and learning. Yea, they were more brave in port, and carried a goodlier ſhew in the world for their skill in liberall ſciences, than others with all their pompe or riches: being fully perſuaded and aſſured, that the way to attaine unto immortalitie and everlaſting fame, was by literature and not*

by

by great poſſeſsions and large ſeignories. And therefore as learning was much honoured and rewarded G
in thoſe daies, ſo arts & ſciences tending to the common good of this life daily encreaſed. But afterwards
when the way was once made to enlarge their territories farther in the world, when princes and ſtates
began to make conqueſts and grow rich and mightie, the poſteritie felt the ſmart and loſſe thereby. Then
began men to chuſe a Senatour for his wealth; to make a judge for his riches; in the election of a civile
magiſtrate and martiall captaine, to have an eie and regard onely to goods and ſubſtance, to land and li-
ving: when rents and revenues were the cheefe and onely ornaments that made men ſeeme wiſe, juſt,
politike, and valiant. Since time that childleſſe eſtate was a point looked into, and advaunced men into
high place of authoritie and power: procuring them many favourites in hope of ſucceſsion; ſince time I
ſay that every man aimed and reached at the readieſt meanes of greateſt lucre and gaine, ſetting their
whole mind, and repoſing their full content and joy in laying land to land, and heaping together poſſeſsi- H
ons; downe went the moſt precious things of this life, and loſt their reputation: all thoſe liberall arts
which tooke their name of libertie and freedome, (the ſoveraigne good in this world which were meet
for princes, nobles, gentlemen, and perſons of great ſtate) for went that prerogative, and fell a contrarie
way, yea, and ran quite to wracke and ruine: ſo as in ſtead thereof, baſe ſlaverie and ſervitude be the on-
ly waies to ariſe and thrive by: whiles ſome practiſe it one way, ſome another, by flattering, admiring,
courting, crouching, and adoring: and all, to gather good and get money. This is the only marke they
ſhoot at, this is the end and accompliſhment of all their vowes, praiers, and deſires. Inſomuch as we may
perceive every where, how men of high ſpirit and great conceit are given rather to honour the vices
and imperfections of others, than to make the beſt of their owne vertues and com[illegible] parts. And
therefore we may full truly ſay, that Life indeed is dead; Voluptuouſneſſe and Pleaſ[illegible] alive, yea
and begunneth to beare all the ſway. Nevertheleſſe, for all theſe enormities and hinderances, give over
will not I to ſearch into thoſe things that bee periſhed and utterly forgotten, how ſmall and baſe ſoever
ſome of them be; no more than I was affrighted in that regard, from the treatiſe and diſcourſe of living
creatures. Notwithſtanding that I ſee Virgil (*a moſt excellent Poet*) *for that cauſe onely forbare to write*
of gardens and hort-yards, becauſe he would not enter into ſuch pettie matters: and of thoſe ſo impor-
tant things that he handled, he gathered only the principall flowers, & put them down in writing. Who
albeit that he have made mention of no more than 15 ſorts of grapes, three kinds of Olives, and as many
of Peares, and ſetting aſide the Citrons and Limons, hath not ſaid a word of any apples; yet in this one
thing happie & fortunat he was, For that his worke is highly eſteemed, and no imputation of negligence
charged upon him. But where now ſhall we begin this treatiſe of ours? what deſerveth the cheefe & prin- K
cipall place, but the Vine? In which reſpect Italie hath the name for the very ſoveraigntie of Vineyards:
inſomuch, that therein alone, if there were nothing els, it may well ſeeme to ſurpaſſe all other lands, even
thoſe that bring forth odoriferous ſpices and aromaticall drugs. And yet to ſay a truth, there is no ſmell
ſo pleaſant whatſoever, that outgooth Vines when they bee in their freſh and flouring time.

Chap. 1.

Of Vines, their nature, and manner of bearing.

VInes in old time were by good reaſon for their bigneſſe reckoned among trees. L
For in Populonia, a citie of Tuſcane, wee ſee a ſtatue of *Jupiter* made of the
wood of one entire Vine, and yet continued it hath a world of yeares uncor-
rupt and without worme. Likewiſe at Maſſiles there is a great ſtanding cup or
boll to be ſeene of Vine wood. At Metapontum there ſtood a temple of *Iuno*,
bearing upon pillars of Vine wood. And even at this day there is a ladder or
paire of ſtaires up to the temple of *Diana* in Epheſus, framed of one Vinetree, brought (by re-
port) out of the Iſland Cypres, for there indeed Vines grow to an exceeding bigneſſe. And to
ſpeake a truth, there is no wood more durable and laſting than is the Vine. Howbeit, for my part
I would thinke that theſe ſingular peeces of worke beforenamed, were made of wild and ſavage
Vines: for that theſe our tame and gentle Vines here planted among us, are by cutting and pru-
ning every yeare kept downe: ſo as all their whole ſtrength is either drawne without-forth into M
branches, or els downward into the root for to put out new ſhoots ever freſh out of the ground:
and regard is onely had of the fruit and juice that they doe yeeld diverſe waies, according to the
temperature of the aire & climate, or the nature of the ſoile wherein they be planted. In the coun-
trey of Campaine about Capua, they bee ſet at the roots of Poplers, and (as it were) wedded

unto

A unto them: and ſo being ſuffered to wind and claſpe about them as their husbands, yea, and with their wanton armes or tendrils to climbe aloft, and with their joints to run up their boughes, they reach up to their head, yea, and overtop them: inſomuch as the grape-gatherer in time of Vintage, putteth in a clauſe in the covenants of his bargaine when hee is hired, that in caſe his foot ſhould faile him, and he breake his necke, his maiſter who ſets him aworke ſhould give order for his funerall fire and tombe at his owne proper coſt and charges. And in truth Vines will grow infinitely: and unpoſſible it is to part them, or rather to plucke them from the trees which they be joined and coupled unto. *Valerianus Cornelius* making mention of many properties and ſingularities of a Vine, thought this among the reſt worthie of eſpeciall note and remembrance, That one onely ſtocke of a Vine was ſufficient to compaſſe and environ round about a good ferme-

B houſe or countrey meſſuage, with the branches and pliable ſhoots that it did put forth. At Rome there is one Vine growing within the cloiſtures of the porches and galleries built by the Empreſſe *Livia*, which running and trailing upon an open frame of railes, covereth and ſhaddoweth the ouvert allies made for to walke in: and the ſame Vine yeeldeth one yeare with another a doſen Amphores of good new wine yearely. An ordinarie thing it is, that Vines will ſurmount any Elmes whereſoever, be they never ſo tall and loftie. It is reported, that *Cyneas* the Embaſſadour of king *Pyrrhus*, wondering at the Vines of Aricia, for that they grew and mounted ſo high; would needs taſt of the wine that came of their grapes: and finding it to bee hard and tart, merrily skoffed and ſaid, That by good right and juſtice they had done well, to hang the mother that bare ſuch unpleaſant wine, upon ſo high a gibbet. Beyond the river Po in Italie, there is a tree growing

C which the peaſants there call Rumbotinus, and by another name *Opulus; it putteth forth great armes and boughes, and thoſe ſpread broad and beare a round compaſſe, howbeit, the Vines that be planted at the root of theſe trees, doe fill and cover the ſaid boughes: for yee ſhall have the very old crooked braunches of the Vine (bare as they be and naked of leaves) to wind about the armes, and crawle in manner of a ſerpent or dragon along the broader and flatter baſe of the boughs, and then the new ſhoots, toptwigs, and tendrils, will devide themſelves to the utmoſt branches and ſhoots of the tree, that they will rode and clog her withall. Theſe Vines again grow ſometime no taller than the ordinarie height of a man of middle ſtature, and being ſupported and underpropped with ſtakes and forkes, cleave and cling thicke together, and in this order fill whole Vineyards. Others alſo there bee, which with their exceſſive creeping upon frames, with

D their overgrowne braunches, and ſome artificiall helpe of the maiſters hand, ſpread ſo far every way, that they take up wide and large courts, overſpreading not onely the ſides, but the very mids thereof. See what ſundrie ſorts of Vines even Italie alone is able to affourd! But in ſome provinces without Italie, ye ſhall ſee a Vine ſtand of it ſelfe without any prop or ſtay at all, gathering and drawing in her boughes and braunches together: thus indeed ſhe groweth but ſhort, howbeit ſo cloſe couched and truſſed round, that the thickneſſe makes amends for all. And yet otherwhiles in ſome coaſts the winds are ſo big and boiſterous, that they will not ſuffer them thus to grow upright; as namely in Affricke, and Languedoc, the province of Narbon. Vines being thus debarred to run up in height, reſting upon their owne joints and braunches, and ever like to thoſe that be laid along whiles they are a trimming, by delving about their roots, and pruning their ſu-

E perfluous branches, traile and creepe too and fro along the ground, as weedes and hearbes; and all the way as they ſpread, ſucke the humor of the earth into their grapes: by which meanes, no marvell it is, if in the inland parts of Affricke there bee found ſome of thoſe grapes bigger than pretie babes. And in no countrie are the grapes of a thicker skin than thoſe of Affricke, whereupon it may well be, that they tooke the name *Duracina* [*i.* having hard skins.] For infinite ſorts there be of grapes, according to the difference obſerved in their quantitie and bigneſſe, in their colour, taſt, ſtones or kernils: and yet more ſtill, in regard of the divers wines made of them. In one place they are of a freſh and bright purple, in another, of a glittering, incarnate, and roſate colour: and yee ſhall have them of a faire and lively greene. As for the white and blacke grapes, they be common every where. The grapes Bumaſti have their name, for that they bee ſo ſwelling

F and round, like ſtrutting paps or dugs. The Date-grapes Dactyli, are long, both grape and kernill, faſhioned in manner of fingers. Moreover, Nature ſeemeth to take her pleaſure and make good ſport in ſome kind of them; where ye ſhall find among them ſome that be exceeding great, others againe that be as ſmall, howbeit pleaſant they are, and as ſweet as the reſt: and ſuch be called Leptorrhagæs. Some laſt all winter long, being knit in bunches together, and ſo hanged aloft

arch-

*Opiet.

*Quaſi durâ acinis.

arch-wise in maner of a vault: with others they make no more ado, but put them up presently as they come from the Vine, into earthen pots, whiles they be fresh & in their vigor; and afterwards they are bestowed, well lapped over with their leaves, in other greater vessels over them; and for to keepe them better, they be stopped close with kernels heaped and piled upon, sweating round about, to condite and preserve them in their naturall heat. Others they suffer to be dried in the smoke of smiths forges, wherby they get the very tast of enfumed wine, so ordered in the smoke. And in truth *Tiberius Cæsar* the Emperour gave especiall credite and name by his example to such grapes dried in the furnaces of Affricke. For before his time, the Rhetian grapes and those that came out of the territorie of Verona, were ordinarily served up to the table first, for the very best. As for the Raisins called Passæ, they tooke that name in Latine of their patience to endure their drying and confiture. Some grapes there be that are condite in Must or new wine, and so they drinke their owne liquor wherein they lie soking, without any other seething. Others againe are boiled in Must above said, untill they loose their owne verdure, and become sweet and pleasant. Moreover, yee shall see old grapes hang still upon the Vine their mother, untill new come: but within glasses, that a man may see them easily through: howbeit, to make them to last and continue in their full strength, as well as those which bee preserved in barrels, tuns, and such like vessels aforesaid, they use the helpe of pitch or tarre, which they poure upon the stalkes that the cluster hangeth to, and wherewith they stop close the mouth of the said glasse. It is not long since that there was a devise found, that wine of it selfe (as it came naturally from the grape growing upon the Vine) should have a smacke and sent of pitch. And surely this kind of *Pitch-wine, brought the territorie about Vienna into great name and reputation: and before that this Vine was knowne, those of Auverne, Burgundie, and the Helvij, were in no request at all. But these devises as touching Vines and Wines, were not in the daies of the Poët *Virgil*, who died about ninetie yeares past. But behold what I have to say more of the Vine tree: the Vine wand is now entred into the campe, and by it our armies are raunged into battaillons: nay, upon the direction thereof dependeth the maine estate of our soveraigne Empire: For the Centurion hath the honour to carie in his hand a Vine-rod: the good guidance and ordering whereof advaunceth after long time the Centeners (for a good reward of their valorous and faithfull service) from the leading of inferiour bands, to the captaineship of that regiment and cheefe place in the armie, unto which the maine standard of the Ægle is committed: yea, and more than that, the Vine wand chastiseth the trespasses and lighter offences of the souldiors; who take it for no dishonour nor disgrace to be thus punished at their Centurions hand. Over and besides, the planting of Vineyards hath taught martiall men how to approch the walls of their enemies, to give an assault under a frame devised for the purpose, which thereupon took the name of Vinea. Lastly, for medicinable vertues in Physicke, the Vine is so profitable to mans health, that the use of it alone is a sufficient remedie for the distemperature of mans bodie, caused by wine it selfe.

* πεπτικὸν οἶνον. Plutarch.

Chap. 11.

Of the diverse kinds of Vines.

Democritus was the onely Philosopher ever known, who made profession to reduce all the sorts and kinds of Vines to a certaine number, and indeed he vaunted and made his boast that he had the knowledge of all things that were in Greece. All others besides himselfe, and those comming nearer to the truth, (as shall appear more evidently by the varietie of wines) resolutely have set downe, that there be infinite sorts of Vine-trees. Looke not therefore at my hands, that I should write of them all, but onely of the principall: for that in truth there bee in manner as many and as sundrie kinds of them, as are of grounds. Wherefore I will content my selfe, and thinke it sufficient to shew those that bee singular and most renowned among them, or such as have some secret proprietie worth admiration. And first to begin with the Aminean Vines, all the world giveth them the cheefe praise and greatest name; as well for their grapes, of so lasting and durable a nature, as for the wine made thereof, which in all places continueth long in vigor, and is ever the better for the age. And hereof there be five sundrie sorts. Of which, the kindly Vines named Germanæ, have both lesse grapes and graines within, but they burgen and blowme better than others: and after the flower is gone, they can abide both raine and tempest. But the second kind (which is the greater) is not so hardie: howbeit, lesse subject to wind & weather

A ther when they be planted to run up a tree, rather than to creepe upon a frame. A third sort are called Gemellæ, for that their grapes grow double like twins, and they be very harsh and in tast untoothsome, howbeit their vertue and strength is singular. The smaller sort of these take harm by the South wind: but all other winds nourish them, as we may see in the mount Vesuvius, and the litle hils of Surrentum: for in all other parts of Italie, yee shall never find them but wedded to trees, and growing upon them. As for the fift kind of these Amminean Vines, they bee called Lanatæ, so freezed they are with a kind of downe or cotton, insomuch as we need not wonder any more at the Seres or Indians for their cotton and silken trees. The first kind of these Amminean grapes come soonest to their ripenesse and perfection, and most quickly do they rot and putrifie. Next to these Amminean Vines, those of Nomentum are in most account: and for that their
B wood is red, some have called them Rubellæ. These grapes yeeld no great plentie of wine, but in stead thereof their stones and kernils, and other refuse remaining, grow to an exceeding big cake: howbeit, this propertie they have. The frost they will endure passing well, lesse harme they take also by raine than drought, and thrive better in cold than heat: and therefore in cold and moist grounds they excell and have no fellow. Of these Vines, they are more plentifull which beare grapes with smaller stones, and leaves with lesse cuts and jags endented. As touching the Muscadell Vines, Apianæ, they tooke that name of Bees, which are so much delighted in them, and desirous to settle and feed of them. Of two sorts they are: and both carie cotton and down. Howbeit, this difference is betweene them, that the grapes of the one will bee sooner ripe than the other, and yet there is neither of them both but be hastie ynough. These Muscadell grapes
C like well and love cold countries: and yet none sooner rot than they, if showers take them. The Muscadell wines are at the first sweet: but with age become harsh and hard, yea, and red withall. And to conclude, there is not a grape that joieth more to hang upon the vine, than it doth. Thus much of the very flower of Vines, and the principall grapes that be familiar and proper unto our countrey of Italie, as their native soile.

The rest be straungers come out of Chios or Thasos. As for the Greeke grapes of Corinth, they be not in goodnesse inferior to the Aminean aforesaid. They have a very tender stone within: and the grape it selfe is so small, that unlesse the soile be exceeding fat and battle, there is no profite in planting and tending such Vines. The quicke sets of the Vine Eugenia were sent unto us from the Taurominitane hils in Sicilie, together with their surname pretending a noble and
D gentle race. Howbeit, they are never in their kind with us, but onely in the Albane countrey: for if you transplant them, they prove very bastards and changelings presently. And in faith, some Vines there be that take such an affection and love to a place, that all their goodnesse and excellencie they will leave there behind them, and never passe into another quarter whole and entire as they be in their owne nature. Which evidently is to bee seene in the Rhetian Vine, and that of Savoy and Dauphinie, of which in the chapter before we said, that it gave the tast of pitch to the wine made thereof: for, these Vines at home in those countries are much renowned for the said tast: but elsewhere if they be transplanted, they loose it whole, and no such thing may a man acknowledge in them. Howbeit, plentifull such are, and for default of goodnes, they make amends and recompence in abundance of wine that they yeeld. As for the Vine Eugenia, it taketh well in
E hote grounds. The Rhetian liketh better in a temperate soile. The Allobrogian Vine of Savoy and Daulphine delighteth most in cold quarters: the frost it is that ripeneth her grapes, & commonly they are of colour blacke. Of all the grapes above rehearsed, the wines that be made, the longer they be kept, the more they change colour, & in the end become white, yea, though they came of blacke grapes, and were of a deepe colour at first. Now for all other grapes whatsoever, they are reckoned but base in comparison of the former. And yet this is to bee noted and observed, that the temperature of the aire may be such, and the soile so good, that both the grapes will endure long, and the wine bear the age very well. As for example, the Vine Fecenia, and likewise Biturica, that bloumeth with it, which beare grapes with few stones within: their flowers never miscarie, for they ever prevent and come so timely, that they be able to withstand both wind and
F weather. Howbeit, they doe better in cold places than in hote: in moist also, than in drie. And to say a truth, there is not a vine more fruitfull, and yeelding such store of grapes growing so thicke together in clusters: but of all things it may not away with variable and inconstant weather: let the season be staied and settled, it matters not then whether it bee hot or cold, for well it will abide the one and the other alone, hold it never so long. The lesser of this kind is held for the better.

Howbeit

Howbeit, in chooſing of a fit ſoile for this vine, it is much adoe to pleaſe and content it: in a fat ground it ſoone rotteth; in a light and lean, it will not grow at all: very choiſe it is therefore, daintie, and nice, in ſeeking a middle temper betweene, and therefore it taketh a great liking to the Sabine hills, and there it loves to be. The grapes that it beareth, be not ſo beautifull to the eye, but pleaſant to the tooth: if you make not the more haſt to take them preſently when they be ripe, they will fall off, although they bee not rotten. This vine putteth foorth large and hard leaves, which defend the grapes well againſt haileſtones. G

Now there are beſides, certain notable grapes of a middle colour between black and purple, and they alter their hue oftentimes; whereupon ſome have named them Varianæ: and yet the blacker they be, the more they are ſet by: they beare grapes but each other yeare, that is to ſay, this yeare in great plentie, the next yeare very little: howbeit, their wine is the better when they yeeld fewer grapes. Alſo there be two kinds of vines called Pretiæ, differing one from the other in the bigneſſe of the ſtones within the grape: full of wood and braunches they are both: their grapes are very good to be preſerved in earthen pots: and leafed they be like to Smallach. They of Dyrrhachium doe highly praiſe the Roiall vine Baſilica, which the Spaniards call Cocolobis. The grapes grow but thin upon this plant: they can well abide all South winds, and hote weather: they trouble and hurt the head, if a man eat much of them. In Spaine they make two kinds of them; the one having a long ſtone or grain within, the other a round: theſe be the laſt grapes that are gathered in time of vintage. The ſweeter grape that the Cocolobis beareth, the better is it thought: howbeit that which was hard and tart at the firſt, will turne to bee pleaſant with keeping; and that which was ſweet, will become harſh with age: and then they reſemble in taſt, the Albane wine: and men ſay, there is an excellent drinke made thereof, to helpe diſeaſes and infirmities of the bladder. As touching the vine Albuëlis, it beareth moſt grapes in the tops of trees, but Viſula is more fruitfull beneath toward the root: and therefore if they be ſet both under one and the ſame tree, a man ſhall ſee the diverſitie of their nature, and how they will furniſh and enrich that tree, from the head to the foot. There is a kind of blacke grape, named Inerticula, as a man would ſay, dull and harmeleſſe; but they that ſo called it, might more juſtly have named it The ſober grape: The wine made therof is very commendable when it is old, howbeit nothing hurtfull * for never maketh it any man drunke: and this propertie hath it alone by it ſelfe. As for other vines, their fruitfulnes doth commend them; and namely above all, that which is called Helvenaca: wherof be two kinds; the greater, which ſome name The long: and the ſmaller, called Area: not ſo plentifull it is as the former, but ſurely the wine thereof goeth downe the throat more merrily. It differeth from the other in the perfect and exquiſite wonders of the leafe, as it were drawne by compaſſe: but both the one and the other is very ſlender, and therefore of neceſſitie they muſt be underpropped with forkes, for otherwiſe they will not beare their own burden, ſo fruitfull they be. They delight greatly to grow neare the ſea ſide, where they may have the vapours of the ſea to breath upon them: and indeed their very grapes have a ſent and ſmell of a brackiſh dew. There is not a vine can worſe brooke Italie. Her grapes are ſmall, they hang thin, and rot even upon her: and the wine made thereof, will not laſt above one Summer: and yet on the other ſide there is not a vine that liketh better in an hungrie and leane ground. *Græcinus* (who otherwiſe compiled his worke out of *Cornelius Celſus* in manner word for word) is of this opinion, That this vine could love Italie well enough, and that of the owne nature it miſliketh not the countrey; but the cauſe why it thriveth no better there, is the want of skill and knowledge to order and husband it as it ought to bee; for that men ſtrive to overcharge it with wood, and load it with too many braunches: and were it not that the goodnes of a fat and rich ſoile maintained it ſtill, beginning to faint and decay, the fruitfulneſſe thereof were enough to kill it. This vine (by report) is never blaſted: a ſingular gift verily of Nature, if it be true, That any plant or tree ſhould bee ſo exempt from the juriſdiction (as it were) of the heavens, that they had no power to doe it harme. The vine Spionia, which ſome call Spinea, feareth no extremitie of heat: her grapes proſper well in Autumne and much abundance of raine: This is the only grape that is nouriſhed with foggie miſts, and therefore it liketh no place well but the territory of Ravenna. The vine Venicula (which is counted one of the beſt for kindly blooming and ſhedding the flowers, and for grapes moſt meet to be preſerved and kept in pots) the Campaines rather name Sirculus; others Stacula: and they of Tarracina call it Numiſiana: and as they ſay, the grape therof hath no ſingularitie nor vertue in it ſelfe, but only according to the ſoile where H I K L M

* Amethyſtos, *Columell.*

it

A it groweth: howbeit thoſe that grow about Surrentum, have the moſt ſtrength, and are excellent to bee preſerved in veſſels; I meane, as farre as up to the hill Veſuvius: for there alſo is the vine Murgentina, the beſt of all thoſe that come out of Sicilie, which ſome call Pompeiana, of Pompeij, a towne within the kingdome of Naples: & being gotten once into Latium, it beareth grapes abundantly: like as the vine Horconia in Campaine, yeeldeth plentie of grapes with the beſt, but good they are for nothing ſave only to be eaten at the table. As for the grape Mærica, it will laſt and endure a long time; it feareth neither wind nor tempeſt, nor any blaſt of planet: blacke it is, and hath blacke ſtones: howbeit the wine that it maketh, waxeth red with age, namely, if it be long kept.

B

Chap. iii.

Of the divers kinds likewiſe of vines according to the propertie of the places and regions where they grow.

HItherto have we treated of the ſundrie ſorts of vines in generall: now will we write of them according to the nature of the places and regions, which are proper and familiar unto them; or, as they be mingled one with another, by tranſplanting or grafting. And firſt and formoſt, the vine Tudernis; alſo Florentia (bearing the name of the citie Florence) are peculiar to the Tuſcans: but about Aretium, there is no talke both for plentie and goodneſſe, but of the Talpana, Eteſiaca, and Conſeminia. The Talpane grape is blacke as the Mouldwarpe,
C whereof it taketh the name, but yet doth it yeeld a white wine. The Eteſiacke vine [ſo called of the wines Eteſiæ] is a deceitfull plant, and often miſſeth and faulteth; but the more grapes it beareth, the better wine it yeeldeth and more commendable: mary this is ſtraunge and wonderfull in it, In the mids of this fruitfulneſſe of hers, ſhe giveth over ſodainly and dieth. The vine Conſeminia, bringeth blacke grapes: the wine will not laſt, but the grapes will keepe and continue paſſing long: the vintage thereof is fifteene daies after all other: it beareth ordinarily her full burden, but the fruit is onely good for meat to be eaten, and not for wine to be drunke. The leaves of this vine (in manner of the wild vine Labruſca) before they fall, become as red as bloud. This propertie happeneth to ſome others beſides; but take it for a certaine token of the worſt vines. The vine and grape Irtiola, is proper unto Vmbria, to the territorie of the Meve-
D nates, and the Picene countrey: like as that which they call Pumula, to the Amiternine region. They have among them alſo another kind, named Bannanica: and although it oftentimes doth not take, yet they love the plant and cheriſh it. There is a grape which they call the Burrough or Burgeois grape, after the name of the burrough towne Pompeij; and yet there is more plentie of them about the citie Cluſium. The Tiburtines alſo, named their grapes after their town Tybur: yet of late daies they have found another ſort, which of the reſemblance of Olives, is called the Olive grape: and in truth, this is the laſt grape of any account, to this day knowne to have been found out. The Sabins and Laurentines only are acquainted with the grape Vinaciola: for well I wot, that the vines Gauranæ came firſt out of the territorie of Falerij, and thereupon were named Falernæ: but tranſplant them from thence whitherſoever you will, they will very quickly de-
E generat in all places, & prove baſtard. Moreover, ſome have made a ſeveral kind by it ſelfe of the Tarentin vine, which bringeth forth an exceeding ſweet grape. As for the grapes called Capnias, Bucconiatis, and Tarrupia, there is no vintage of them in the vineyards of the hils about Thurinum, before the cold froſt. As for the citizens of Piſæ, they ſet great ſtore by the grapes Phariæ: like as Modenna by thoſe called Pruſiniæ; which are very black, ſtone and all: yet the wine therof, within foure yeeres will turne to a pallet and whitiſh colour. A ſtraunge thing it is which men report of a certaine grape, that evermore will turne with the Sunne; and thereupon it is called Streptos: as alſo that we in Italie are delighted with the French grapes: and they in Fraunce beyond the Alpes, are as much in love with ours in the Picene countrey. *Virgill* hath made mention of other grapes, namely, Thaſiæ, Mareotides, and Lageæ, beſides many other outlandiſh
F plants, not at this day to be found throughout all Italy. Howbeit there be yet many vines of good marke & well accepted of, not for any wine that they yeeld, but only for their grapes which they carie; to wit, Ambroſiaca, and Duracina, which may be kept hanging ſtill upon the vine, without any veſſell to encloſe them: ſo durable be they and hardie, againſt cold, heat, wind, and rain, or any weather whatſoever. As for the vine Orthampelos, it needs neither tree to climb on, nor

forkes to ſupport it, but is able to maintaine and uphold it ſelfe upright. But the Dactylides (ſo G
called for that they beare not wood above a finger thicke) cannot ſo doe: for they muſt be ſhored and underpropped. Of all vines, the Columbines yeeld moſt gleaning, for that the gatherers leave behind them greateſt ſtore of ſmall grapes: and ſo doe the purple grapes, named alſo Bimammiæ (as one would ſay, with two teats or bigs) more than the reſt; ſeeing that they beare not ſmall grapes, but put forth new great ones indeed, after the other be gathered and gone. In like manner, the vine Tripedanea, which tooke that name of the meaſure of three foot. Semblably the vine Scirpula, the grapes wherof ſeeme as if they were Raiſons of the Sunne, dried alreadie. Moreover, in the maritime Alpes toward the ſea ſide, there is a kind of Rhetian vine, but far inferiour to that other above-mentioned and ſo much commended for the relliſh of pitch that it giveth to the wine made of her grapes: for theſe about the Alpes be little and ſmall; and albeit H
they beare grapes thicke, yet the wine thereof commeth farre ſhort of the other, and is more degenerate: howbeit the skin of the grapes is of all other the thinneſt, having but one kernell within, which they call Gigarton, and the ſame very ſmall; and a man ſhall not find a bunch, without one or two paſſing great grapes above the reſt. There is alſo a kind of blacke Aminean grape, which ſome name Syriaca: likewiſe the grape of Spaine, which of the baſe and common kinds carrieth the greateſt credit, and is moſt commended. As touching both vines and grapes that run and traile upon frames; there be thoſe which are called Eſcariæ, good only for to eat, and namely thoſe which have graines or ſtones like to Ivie berries, as well white as black. Grapes reſembling great dugs, named thereupon Bumaſti, both blacke and white, are caried upon frames in like ſort. But all this while we have not ſpoken of the Ægyptian and Rhodian grapes, ne yet I
of the Ounce-grapes, whereof every one weigheth a good ounce, and thereupon tooke that name. *Item*, the grape Pucina, the blackeſt of all others: the Stephanitis alſo, wherein Nature hath ſeemed to diſport her ſelfe, for the leaves runne among the grapes in manner of a guirland plaited with them. Moreover, the market-grapes called Forenſes, they grow and are ripe with the ſooneſt; vendible at the very firſt ſight, and ſold with the beſt, and moſt eaſie to be carried from market to market. But contrariwiſe, the aſh-coloured grape Cinerea, the ſilke-ruſſet grape Ravuſcula, the aſſe-hued grape Aſiniſca, pleaſe not the eye, but are preſently rejected: and yet the fox-tailed grape Alopecis (for that it reſembleth Rainards-taile) is not ſo diſpleaſant nor ſo much diſcommended as the former. About a cape or creſt of the hill Ida, which they call Phalacra, there is a vine named Alexandrina, ſmall of growth, and putteth forth braunches of a cubit in length: the grapes be blacke, as big as beanes; the pepin or kernell within, ſoft, tender, K
and exceeding ſmall; the bunches are crooked, full of grapes, paſſing ſweet; & finally, the leaves little, round, and not cut or jagged at all. Within theſe ſeven yeeres laſt paſt, about Alba Elvia, a citie in Languedocke or the province of Narbon, there was found a vine, which in one day both flowred and ſhed her flowers: by which meanes moſt ſecured it was from all daungers of the weather. They call it Narbonica, or the vine of Languedoc: and now it is commonly planted all that province over, and every man deſireth to ſtore his vineyard therewith.

Chap. iiii.

Notable conſiderations about the husbandrie and ordering of Vineyards. L

That noble and worthy *Cato*, the firſt of that name, renowmed among other dignities for his honorable triumph, and the incorrupt adminiſtration of his Cenſorſhip; & yet more famous and renowmed to poſteritie for his ſingular knowledge and learning; and namely for the good precepts and ordinances tending to all vertues and commendable parts, which hee left in memorie for the people of Rome; and principally as touching agriculture [as he was by the common voice and generall accord of that age wherein hee lived reputed for an excellent husbandman, and one who in that profeſſion had neither peere nor ſecond that came near unto him.] This *Cato* (I ſay) hath in his workes made mention but of a few kinds of vines: and yet M
ſome of them alreadie be growne out of knowledge, ſo as their very names are quite forgotten. Yet nevertheleſſe his opinion and judgement would be ſet downe in particular, as it may be gathered out of his whole treatiſe: to the end that we might both know in every kind of vine which were of moſt account in his daies (to wit, in the 600 year after the foundation of Rome, about the

A the time that Carthage and Corinth were forced and woon, when hee departed this life:) and alſo learne how much we have profited and proceeded in good husbandrie and agriculture, from his death unto this preſent day; namely for the ſpace of 230 yeares. As concerning vines and grapes therefore, thus much hath *Cato* delivered in writing, and in this manner following. *All places or grounds* (quoth he) *expoſed to the Sun-ſhine, and which in other regards ſhall be found good for to plant vineyards in, ſee they be employed for the leſſe Amincan, for both the Eugenian vines, and the ſmaller Helvine. Item, In every tract that is more groſſe, thicke, and miſty, looke that you ſet the greater Amincan, or the Murgentine: the Apician alſo, and the Lucane vine. All other vines, and the common mingled ſort eſpecially, will agree well enough with any ground. The right keeping of grapes, is in a ſmall thin wine of the ſecond running. The grapes Duracine, and the greater Amineans, are good to be hanged, or elſe dried before a black-ſmithes forge, and ſo they may be well preſerved and goe for Raiſons of the Sunne.* Loe what the precepts of *Cato* be; neither are there any of this argument more auncient, left unto us written in the Latine tongue. Whereby we may ſee, that wee live not long after the very firſt rudiments and beginnings of knowledge in theſe matters. [But by the way, the Amineans laſt named, *Varro* calleth Scantians.] And in very truth, few there be even in this our age, who have left any rules in forme of Art, as touching the abſolute skill in this behalfe. Yet ſuch as they be, and how few ſoever, wee muſt not leave them behind, but ſo much the rather take them with us; to the end it may be known, what reward and profit they met with, who travailed in this point of husbandrie: reward, I ſay, and profit, which in every thing is all in all.

C To begin therefore with *Acilius* Sthenelus*, (a meane commoner of Rome deſcended from the race of Libertines or Slaves newly enfranchiſed) he attained to the higheſt glorie and greateſt name of all others: for having in the whole world not above ſixtie acres of land lying all in vineyards within the territorie of Nomentum, he plaied the good husband ſo well therein, that he ſold them againe at the price of 400000 Seſterces. There went a great bruit and fame likewiſe of one *Verulenus Aegialus*, in his time a man but of baſe condition by birth, and no better than the former (namely, come of the ſtocke of freed-men) who by his labour and husbandrie, greatly enriched a domaine or living at Liternum in Campaine: and the more renowmed hee was by occaſion of the favour of ſo many men affectionate unto *Africanus*, whoſe very place of exile he held in his hands and occupied ſo well: for unto *Scipio*, the aboveſaid Liternum appertained. But the greateſt voice and ſpeech of men was of *Rhemnius Palamon* (who otherwiſe by profeſſion was a famous and renowmed Grammarian) for that hee by the meanes and helpe of the foreſaid *Sthenelus*, bought a ferme within theſe twentie yeares for 600000 Seſterces in the ſame territorie of Nomentum, about ten miles diſtant from Rome, lying ſomewhat out of the high way. Now it is well knowne farre and neare, of what price and account all ſuch fermes are, and how cheape ſuch ware is lying ſo neare to the city ſide: but among the reſt, this of *Palamons* in that place was eſteemed moſt cheape and loweſt priſed, in this regard eſpecially, That he had purchaſed thoſe lands, which through the careleſneſſe & bad husbandrie of the former owners, lay neglected and fore-let, and were not of themſelves thought to be of the beſt ſoile, choſen and piked from among the worſt. But beeing entred once upon theſe grounds as his owne livelode and poſſeſſion, he ſet in hand to husband and manure them, not ſo much of any good mind and affection that he had to improove and better any thing that he held, but upon a vaine glorie of his owne at the firſt, whereunto he was wonderouſly given: for he makes fallows of his vine-plots anew, and delveth them all over againe, as he had ſeene *Sthenelus* to do with his before: but what with digging, ſtirring, and medling therewith, following the good example and husbandrie of *Sthenelus*, he brought his vineyards to ſo good a paſſe within one eight yeeres, that the fruit of one yeares vintage was held at 400000 Seſterces, and yeelded ſo much rent to the lord: a wonderfull and miraculous thing, that a ground ſhould bee ſo much improoved in ſo ſmall a time! And in verie truth, it was ſtraunge to ſee what numbers of people would run thither, only to ſee the huge and mightie heapes of grapes gathered in thoſe vineyards of his: and all idle neighbours about him, whoſe grounds yeelded no ſuch encreaſe, attributed all to his deepe learning, and that he went to it by his booke, & had ſome hidden ſpeculation above other men; objecting againſt him, that he practiſed Art Magicke, and the blacke Science. But laſt of all, *Annaus Seneca*, eſteemed in thoſe daies a ſingular clerke, and a mightie great man, (whoſe overmuch learning and exceeding power coſt him his overthrowing in the end) one who had good skill and

* or, *Sicelenſis*.

judgement in the world, and vſed leaſt of all others to eſteeme toies and vanities, brought this ferme into a greater name & credit: for ſo farre in loue was he of this poſſeſſion, that he bought out *Palæmon*, and was not aſhamed to let him goe away with the prick and praiſe for good husbandrie, and to remooue him into other parts where he might ſhew the like cunning: and in one word, paid for theſe foreſaid vineyards of his four fold as much as they coſt, not aboue ten years before this good husbandrie was beſtowed vpon them. Certes, great pitie it is, that the like induſtrie was not ſhewed and emploied in the territories about the hills Cecubus and Setinus, where (no doubt) it would haue well quit all the coſt, conſidering that many a time afterwards, every acre of vineyard there, yeelded ſeuen Culei, that is to ſay, 140 Amphores of new wine one year with another. But leaſt any man ſhould thinke, that we in theſe daies haue ſurpaſſed our auncеſtors in diligence, as touching good husbandrie; know he, that the abouenamed *Cato* hath left in writing, How of an acre of vineyard there hath ariſen ordinarily * ten Culei of wine by the yeare. Certainly theſe be effectuall examples and pregnant proofes, that the hardie and aduenturous voiages by ſea, are not more aduantageous; ne yet the commodities and merchandiſe, and namely Pearles, which be fet as farre as the red ſea and the Indian ocean, are more gainfull to the merchant, than a good ferme and homeſtall in the countrey, well tilled and carefully huſbanded.

* 15, according to *Ful. Vrſinus.*

As touching the Wines in old time, *Homer* writeth, that the Maronean wine made of the grapes growing vpon the ſea-coaſt of Affricke, was the beſt and moſt excellent in his daies. But my meaning is not to ground vpon fabulous tales and variable reports, as touching the excellencie or antiquitie of wine. True it is, that *Ariſtæus* was the firſt, who in that very nation mingled honey with wine; which muſt needs be a paſſing ſweet and pleaſant liquor, made of two natures ſo ſingular as they bee of themſelues. And yet to come againe to the foreſaid Maronean wine, the ſame *Homer* ſaith, That to one part thereof, there would be put twentie parts of water: and euen at this day, that kind of wine continueth in the ſaid land of the ſame force, and the ſtrength thereof will not be conquered nor allaied. For *Mutianus*, who had been thrice Conſull of Rome, and one of thoſe that lateſt wrote of this matter, found by experience (being himſelfe perſonally in that tract) that euery ſextar or quart of that wine, would beare eight of water: who reporteth moreouer, that the wine is of colour blacke, of a fragrant ſweet ſmell, and by age commeth to be fat and vnctious. Moreouer, the Pramnian wine, (which the ſame *Homer* hath ſo highly commended) continueth yet in credit and holdeth the name ſtill: it commeth from a vineyard in the countrey about Smyrna, neare to the temple of *Cybele* the mother of the gods. As for other wines, no one kind apart excelled other.

One yeare there was, when all wines proued paſſing good; to wit, when *L. Opimius* was Conſull, at what time as *C. Gracchus* a Tribune of the Commons (practiſing to ſow ſedition within the citie among the common people) was ſlaine: for then ſuch ſeaſonable weather happened, and ſo fauourable for all fruit, that they called it (Coctura) as a man would ſay, the ripening time; ſo beneficiall was the Sunne to the earth: and this fell out in the yeere after the nativitie & foundation of the citie of Rome, 634.

Moreouer, there be ſome wines ſo durable, that they haue been knowne to laſt two hundred yeeres; and are come now by this time to the qualitie and conſiſtence of a rough, ſharpe, and auſtere kind of honey: and this is the nature of all when they bee old: neither are they potable alone by themſelues, vnleſſe the water be predominant; ſo tart they are of the lees and ſo muſtie withall, that they are bitter againe. Howbeit a certaine mixture there is of them in a very ſmall quantitie with other wines, that gives a pretie commendable taſt vnto them. Suppoſe now, that according to the price of wine in thoſe daies of *Opimius*, euery Amphore were ſet but at an hundred Seſterces, yet after the vſurie of ſix in the hundred yeerely (which is the ordinarie proportion and a reaſonable intereſt among citizens, for the principall that lyeth dead and dormant in ſtocke) by the hundred and ſixtieth yeere after the ſaid Amphore was bought (which fell out in the time that *C. Caligula Cæſar* the ſonne of *Germanicus* was Emperour) no marueile if an ounce in meaſure of the ſame wine (to wit, the twelfth part of a Sextarius) coſt * ſo many Seſterces: for as we haue ſhewed by a notable example, when we did ſet downe the life of *Pomponius Secundus* the Poët, and the feaſt that he made to the ſaid prince *Caligula*, there was not a * Cyathus of that wine drawne, but ſo much was paid for it. Loe what a deale of money lieth in theſe wine-cellars, for keeping of wine! And in very truth, there is nothing more gainfull nor groweth to a

* *Bud.* 22 Seſt.

* *i.* an ounce and a halfe.

better

A better reckoning than it, for twentie yeares ſpace after it is laid up: neither is there greater loſſe againe by any thing, if ye paſſe that tearme; by reaſon that the price will not grow and ariſe accordingly: for ſeldome hath it been knowne to this day, (and never but at ſome exceſſive ryot and ſuperfluous expence of wine) that an Amphore hath been ſold for a thouſand Seſterces. True it is indeed, that they of Vienna only have made a better reckoning of their wines, and ſold them deerer; I meane thoſe that give a taſt of pitch, (the ſeverall kinds whereof we have delivered before:) but they are thought ſo to doe among themſelves onely, and for the love of their countrey, that it might have the name of wines, ſo deere and coſtly. To conclude, this wine of Vienna, is reputed colder than the reſt; when the queſtion is of cold drinke, and that the bodie is to be cooled.

B

Chap. V.

Of the nature of Wine.

THe nature and propertie of wine, is to heat the bowels within, if it be drunke; and to coole the exteriour parts, if it be applied outwardly. And here it ſhall not be amiſſe to rehearſe in this very place, that which *Androcydes* (the noble, ſage, and wiſe Philoſopher) wrote unto King *Alexander* the Great, for to correct and reforme his intemperate drinking of wine, whereto he was very prone and over-much given: *My good lord* (ſaith he) *remember when you take your wine, that you drinke the very blood of the earth: Hemlocke (you know Sir) is poiſon to man, even ſo is wine to Hemlocke.* Now if that Prince had been ſo wiſe as to have obeyed theſe precepts of his,
C certes, he could never have killed his beſt friends as he did, in his fits of drunkenneſſe. In ſumme, this may be truly ſaid of wine, That being taken ſoberly and in meaſure, nothing is more profitable to the ſtrength of the bodie; but contrariwiſe, there is not a thing more dangerous and pernicious, than the immoderate drinking thereof.

Chap. VI.

Of kindly Wines made of the beſt Grapes.

WHo doubteth, that ſome wines be made more pleaſant and acceptable than others? nay out of the very ſame vat ye ſhall have wines not alike in goodnes, but that ſome go
D before their brethren, preſſed though they be at one time, and from the ſame kind of grape: which may be long either of the veſſell whereinto they be filled, or of ſome accidentall occaſion: and therefore as touching the excellencie of wine, let every man be his own taſter and judge. The Empreſſe *Iulia Auguſta* would commonly ſay, That ſhe was beholden to the Pucine wine for living as ſhe did 82 yeares: for ſhe never uſed to drinke any other. This wine came of the grape that grew along the Adriaticke ſea, or Venice gulfe, upon a ſtonie and raggie hill, not farre from the ſource or ſpring of the river Timavus, nouriſhed with the vapours breathed from the ſea; and many Amphores there were not drawne thereof at a vintage: and by the judgement of all men, there is not a wine more medicinable than it is. I would thinke verily therefore, that the wine Pyctanon (which the Greekes ſo highly praiſe) is the very ſame; for it commeth from
E the coaſts of the Adriaticke ſea. The Emperor *Auguſtus Cæſar* preferred the Setine wine before all others: and after him in manner, all the Emperours his ſucceſſours, for the ordinarie experience they found thereby, That lightly the liquor of that wine would not hinder digeſtion nor breed raw humors in the ſtomacke: and this wine commeth of the grape about the towne Forum Appij. Before that time, the wine Cæcubum was in beſt account; and the vines which yeelded it, grew to the Poplars in the mariſh grounds within the tract of Amyclæ. But now is that wine cleane gone, as well through the negligence of the paiſants of that countrey, as the ſtreights of the place: and ſo much the rather, by reaſon of the ditch or trench which *Nero* cauſed to be made navigable, beginning at the lake or gulfe Bajanus, and reaching as farre as to Oſtia. In the ſecond degree of excellencie, are ranged the wines of the Falerne territorie, and principally that
F which came from the vineyards Fauſtian: and this excellencie it grew unto by paſſing good order & carefull husbandrie. Howbeit this wine alſo in theſe daies beginneth to grow out of name and requeſt, whiles men love rather to have plentie from their vines, than otherwiſe lay for the goodnes thereof. Now theſe Falerne vineyards, begin at the Campaine bridge on the left hand as men go to the city-colonie erected by *Sylla*, and lately laid to Capua & under the juriſdiction

thereof. But the Fauſtian vineyards lie about foure miles from a village neare Cediæ, which village is from Sinueſſa ſix miles diſtant. And to ſay a truth, this Fauſtian wine is inferiour to none in reputation: ſo piercing and quicke it is, that it will burne of a light flame; a propertie that you ſhall not ſee in any other wine. Three ſorts there be of theſe Falerne wines: the firſt be hard and harſh; the ſecond, ſweet and pleaſant; the third, thin and ſmall. But ſome have diſtinguiſhed them in this wiſe: Thoſe that come from the top of the hills, be called Gaurane wines; from the mids, Fauſtian; and laſt of all from the bottome and foot thereof, the Falerne. But by the way this would not be forgotten, That the grapes whereof be made theſe wines ſo ſingular and excellent, are nothing pleaſant to the taſt for to be eaten. As touching the Albane wines from about Alba neare the citie of Rome, they reach to the third ranke in goodnes, for a certaine varietie they have in their taſt: ſweetiſh they be, and yet otherwhiles they have an unripe and harſh relliſh of the wood, & taſt like the hedge-wine. In like manner the wines of Surrentum, & namely thoſe of grapes growing onely in vineyards, are excellent good for weake perſons that be newly recovered of ſickneſſe; ſo ſmall they are, and holeſome withall. And in truth, *Tyberius Cæſar* was woont to ſay, That the Phyſicians had laid their heads togither, and agreed to give the Surrentine wine ſo great a name; for otherwiſe it was no better than a very mild and pleaſant vinegre: and *C. Caligula* (his ſucceſſor in the Empire) uſed to ſay of it, That for a wine that had loſt the heart and was a going, it was verie good. The Maſſike wines, which come from the Gaurane hills looking toward Puteoli and Bajæ, come nothing behind the reſt, but ſtrive to match them every way. For as touching the Statane vineyards, that confine and border upon the Falerne, their wines doubtleſſe are now come to be the principall and chiefe of all the reſt: whereby it is evidently ſeene, that every territorie and vine-plot hath their times and ſeaſons, like as all other things in the world, one while riſe and another while fall. For in times paſt, the Calene wines made of the grapes growing hard by Rome, were wont to goe before all others: as alſo the Fundane vines had their time, as well thoſe that are planted in vineyards, as they which run upon trees: like as thoſe of the other ſide, neare alſo to the citie of Rome, and namely from Veliternum and Privernum. For as touching the wine of Signia, it is held for a medicine onely; and by reaſon of an aſtringent verdure that it hath, it is excellent good to ſtay the flux of the belly. In the fourth place of this race of vines, *Iulius Cæſar* (late Emperour of famous memorie) hath raunged (for to ſerve the publicke and ſolemne feaſts of the cittie) the Mamertine wines, from about Meſſana in Sicilie: for he was the firſt (as appeareth by his letters miſſive) that gave credit and authoritie unto them. And of thoſe, the Potulane wines (ſo called of them who firſt planted the vines wherof they came) are moſt commended, & namely thoſe that are upon the next coaſt of Italy. Within the ſame Sicilie, the Taurominitane vines are highly eſteemed, inſomuch as many times they goe for Meſſana wine, and are ſo ſold by whole pottles. Now for all other wines from about the coaſt of the Tuſcane ſea Northward, good reckoning is made of the Prætutian and ſuch as come from Ancone: alſo of the Palmeſian wines, which haply tooke that name, for that the firſt plant of that vine came from a Palme or Date tree. But in the midland parts of Italie within the firme land, good regard there is of the Ceſenatian and Mecænatian wines. Within the territorie of Verona, the Rhetian wine carrieth the price: which *Virgill* ranged next after the Falerne wines. Anon you come to the wines Adriane, and thoſe that grow far within the tract of the Venice gulfe. Now from the nether ſea about Lions, ye have the Latimenſian, the Graviſcane, and the Statonian wines. Throughout all Tuſcane, the wines about Luna beare the name: like as thoſe of Genes, for Liguria. Betweene the Pyrenæan hills and the Alpes, Maſſiles hath the commendation for wines of a double taſt: for the vines there, do yeeld a certain thicke and groſſe wine, which they call Succoſum, [*i.* full of juice and liquor] good to ſeaſon other wines, and to give them a pretie taſt. When ye are paſſed once into Fraunce or Gaule, the wine of Beterræ is in chiefe requeſt. As for the reſt within Languedoc and the province of Narbon, I am not able to avouch any thing for certaintie, ſuch a brewing and ſophiſtication of them they make, what with fuming, perfuming, and colouring them: and would God they put not in ſome hearbs and drugs among, that be not good for mans bodie. For certaine it is, that they commonly buy Aloë to give the wine both another taſt and alſo a counterfeit color. Moreover, in the farther and more remote coaſts of Italie toward the Auſonian ſea, there be wines which are not without their praiſe and commendation, and namely thoſe of Tarentum, Servitium, and Conſentia: likewiſe of Tempſa, Bavia, and Lucania: howbeit the Thurine wine goeth before

G H I K L M

A fore them all. As for the wines of Lagaria, which bee made of the grapes not farre from Grumentum, there goeth a right great name of them, by reaſon that *Meſſala* uſed ordinarily to drink thereof, and thereby was ſuppoſed to preſerve his health ſo well. Of late daies there bee certain wines in Campaine growne into credite (like as they have gotten new names) by good ordering and husbandrie, or by chaunce, I know not whether; namely, thoſe of Trebellia, foure miles from Naples; of Caulium neare to Capua: and laſt of all, the Trebulaine wines within their own territorie: for beforetime they were ever counted no better than common wines for every man to drinke, no more than the Trifolines, from whence they vaunt of their deſcent. As for the wine of Pompeij, a towne in the kingdome of Naples, neither it nor the Vine whereof it commeth, will laſt above ten years at the moſt: after which tearme, the elder they both bee, the worſe
B they are. Beſides, they are found by experience to cauſe the headach, inſomuch, as if a man drink thereof over night, hee ſhall be ſure not to have his head in good tune untill noone the morrow after. By which examples above rehearſed, it is plaine in my conceit, that the goodneſſe of the wine ſtandeth much upon the ſoile and the climate, and not in the grape: ſo as a needleſſe and endleſſe matter it is to reduce all kind of wines to a certaine number, conſidering, that one and the ſelfeſame Vine planted in diverſe places, hath ſundrie operations, and maketh varietie of wines. Now as concerning the wines of Spaine, the Laletane vineyards are much ſpoken of for the plentie and abundance of wine that they yeeld: but thoſe of Tarracon, Arragon, and Laurone, are much praiſed and renowned for the fine and neat wines which they make. As for the wines that come out of the Iſlands, and namely, the Baleares, they are comparable to the very
C beſt in Italie.

I am not ignorant, that moſt men who ſhall read this Treatiſe, will thinke that I have omitted and overpaſſed many wines: for every man liketh his owne; and as ones fancie leadeth, ſo goeth the voice and the crie, and there runs the Hare away. It is reported, that one of *Auguſtus Cæſars* freed men (reputed for the fineſt taſter that hee had about his court, and who knew beſt what would content his pallat, and pleaſe his tooth) upon a time when he taſted the wine that was for the Emperours bourd, at what time as he made a feaſt, ſaid to one of the gueſts at the table, That the ſaid wine indeed had a new and ſtraunge taſt, and was none of the beſt, and thoſe that were in name; howbeit (quoth he) this is for the Emperours cup, and willingly will he drinke of no other, notwithſtanding it be but a homely wine made hereby in the countrey, and not far
D fetched. And now for a finall concluſion of this matter, I cannot denie but that there bee other wines which deſerve to bee numbred among thoſe that are right good and commendable, howbeit, ſuffice it ſhall to have written of theſe, which by the common opinion and conſent of the world are held for the better.

Chap. VII.

Of Wines beyond-ſea.

IT remaineth now to ſpeake of outlandiſh Wines beyond the ſea. Firſt and formoſt therefore, next to thoſe wines renowned by the Poët *Homer*, and whereof we have written before, beſt
E eſteemed alwaies were the wines of the Iſlands Thaſos and Chios: and namely that of Chios which they call Aruſium or Aruiſium. *Eraſiſtratus* the moſt famous Phyſician of his time, matched with theſe the Lesbian wine; and his authoritie gave credite unto it: & this was much about the ſixe hundred yeare after the foundation of Rome. But in theſe daies there is no wine to that of Clazomene, ever ſince that they began to put thereto leſſe ſea-water for to ſeaſon it, than their cuſtome was. As for the wine of Lesbos, it hath a ſent and relliſh of the ſalt water naturally of it ſelfe. Neither is the wine that commeth from the hill Tmolus in any regard, as a wine to be drunk alone, but it ſerveth as a ſweet cuit to mingle with other wines that bee hard: for thereby their greene verdure will ſeeme more mild and pleaſant, yea, and withall to have their ripe age: for no ſooner is it tempered therewith, but they taſt preſently elder than they bee. Next after theſe for
F goodneſſe, follow in their courſe the wines of Sycione, Cypres, Telmeſſus, Tripolis, Berytus, Tyrus, and Sebennys. As for this wine laſt rehearſed, it is made in Ægypt, a countrey much renowned for three kinds of grapes there, to wit, Thaſia, Æthalos, and Peuce. Next in price & account be theſe following, the Hippodomantian, the Myſticke, Cantharite, and the Gnidian wine of the firſt running and unpreſſed, alſo that of Catacecaumene, a region ſo called, for that it ſeemeth

meth all burnt; of Petra, and Mycone. As for the wine Mesogites, it is knowne to make head- G
ach: neither is the wine of Ephesus holsome & healthfull, because it is sophisticated with a kind of cuit halfe sodden, called Defrutum, and sea-water. As for the wine of Apamea, by report it commeth very neare to a kind of Mede, and will very well agree with all, like as Prætutium in Italie. For otherwise, this is the propertie in generall of all sweet wines, that they will not well sort together, & be good still. Touching the wine Protagium, it is now growne out of remembrance: and yet the Physicians of *Asclepiades* his sect and schoole, gave praise unto it next the Italian wines. The learned Physician *Apollodorus*, in his treatise that he compiled of good wines, which he recommended unto king *Ptolomæus* for to drink; as meet for the health of his person, (for default of Italian wines then unknowne) highly praised the wines in Pontus, and principally that which is called Naspercenites: next to it the Orœoticke, the Oeneates, that of Leucadia, of Am- H
bracia; and (which he preferreth above all the rest) the wine of Peparethus: and yet hee said, that there went the lesse name and opinion of it, because after sixe yeares it looseth the strength and pleasant tast that it had.

Chap. VIII.

Seven kinds of salt wine.

THus farre forth have we discoursed of the very flower of good wines, according to the regions where naturally they come of the grape. Now are wee to treat of wines compounded. And first, among such wines is that, which they called Biæon (an invention of the Greeks) I
which above all others was most esteemed: and great reason, for devised it was for the cure of many maladies, as we shall shew hereafter in our treatise of Physicke. The making whereof is in this manner: Take grapes gathered somewhat before they bee ripe: let them lie to drie and parch in the hot Sunne for three daies, and be turned duly thrice a day: upon the fourth day presse them forth for wine, put the liquor up in barrels, and so let it worke in the Sunne. Howbeit, hereto they put a good quantitie of salt sea-water. But this devise was learned first of a false theevish knave, who having robbed his maister and drunke up a good deale of his wine, filled up the vessell again and made just measure with sea-water. White wine if it bee ordered in this sort, is called Leucochrum by the Greekes: but in other nations the like wine so made is named Tethalassomenon. As for Thalassites, it is a kind of wine so called, for that the vessels when the wine is new tunned, K
be cast into the sea, and there let to remaine for a time, by which meanes the wine will soon seeme old and readie to be drunke. Furthermore, *Cato* also here among us hath shewed the way how to make the Greekish wine Coum, of our owne Italian wine: but above all hee hath set downe an expresse rule, to let it first take the maturitie and perfection foure yeares in the Sunne. As for the wine of Rhodes, it is much like to that of Coos. But the Phorinean wine is more salt than the wine of the Isle Coos. Finally, all transmarine or beyond-sea wines are thought in seven or sixe yeares at the least, to come unto their middle age.

Chap. IX.

Foureteene sorts of sweet wines. L

ALwaies the sweeter that they be in tast, the lesse fragrant & odoriferous they are: the thinner and smaller that they be, the more ever they smell to the nose. Of wines there be foure principall colours, white, yellow, red, and blacke. As for Psythium and Melampsythium, they be certaine kinds of cuit, having a severall tast apart by themselves, not resembling wine indeed. And for Cicibelites made in Galatia, it tasteth alwaies like new wine: so doth Halyntium in Sicilie. For as touching Syræum, which some call Hepsema, and we in Latine Sapa [*i.* Cuit] it is a meere artificiall thing, the devise of mans wit, and no worke of Nature: namely, when new wine is sodden away a third part: for when it boileth to the halfe, we then call it Defrutum. And in very deed, all these bee inventions to sophisticate and counterfet honie. But those beforenamed retaine the naturall tast of the grape and the soile whereof they doe consist. Next to these cuit-wines of Candie: those of Cilicia, Affrick, Italie, and the provinces confronting thereupon, are held for the best. Certaine it is, That they be made of one grape, which the Greekes call Suca, and we Apiana [*i.* the Muscadell] and of another named Scirpula: the which have been suf- M

fered

A fered a long time to hang in the Sunne upon the Vine untill they bee scorched and patched: or elſe over the vapour of ſcalding oile. Some there be that make them of any ſweet grapes whatſoever, ſo that they be let to concoct before in the Sunne, untill they be white and drie, ſo farre forth, as little leſſe than halfe of their weight be conſumed: which done, they ſtamp them and ſo gently preſſe them. Then looke how much liquor they have preſſed foorth, ſo much pit water they put to the cake that is preſſed, that thereof they may have a cuit of a ſecond running. But they that be more curious & take upon them to make a daintier cuit, drie the grapes in manner aforeſaid, but they take forth the ſtones and graines within: they ſtrip them alſo from the ſteeles and tailes that they hung by: and ſo after they bee well drenched and infuſed in ſome excellent wine, untill they bee ſwelled and plumpe, they preſſe them. And certainely this faſhion is ſimplie the
B beſt of all others. Put to the cake thereof, water as before, and after the ſame manner yee ſhall have a cuit of a ſecond ſort. Now there is a kind of wine which the Greekes call Aigleuces, that is to ſay, alwaies ſweet like new wine, of a middle nature betweene the common ſimple wine and the ſweet: and this commeth not unto it by kind, but by heed taken in the boiling; for it is not ſuffered to ſeeth and worke: and this is the tearme, wherby is ſignified the alteration of new Muſt into wine. To hinder therefore that it worke not, (as naturally it will) they have no ſooner tunned or filled it out of the Vat, but immediately they douſſe the veſſels full of new Muſt in the water, and let them there continue untill mid-December be paſt, and that the weather be ſetled to froſt and cold, and likewiſe the time expired of the working within the ſaid veſſels. Moreover, there is another kind of wine naturally ſweet, which in Provance & Languedoc is called Dulce [i. ſweet]
C and namely, in the territorie of the Vocontians. For this purpoſe they let the grapes hang a long while upon the Vine, but firſt they wryth the ſteele that the bunch hangeth to. Some make inciſion into the very Vine braunch, as farre as to the pith and marrow within (to divert the moiſture that feedeth the grape:) others lay the cluſters a drying upon tile-houſes: and all this is done with the grapes of the Vine Helvenaca. There be that range in a ranke of theſe ſweet wines, that which they call Diachyton. For which effect, they drie the grapes againſt the Sunne (howbeit in a place well encloſed) for ſeven daies together, upon hardles, ſeven foot likewiſe from the ground: in the night ſeaſon they ſave them from all dews, and ſo upon the eight day they tread them in the wine preſſe: and thus they draw forth a wine of an excellent ſavor and taſt both. A kind of theſe ſweet wines, is that which they name Melitites, [in manner of a Brager, Meade, or Metheglin.] How-
D beit, different it is from meade or honied wine which the Latines call Mulſum; made of old wine that is hard, and a little honnie: whereas the foreſaid Melitites conſiſteth of five gallons of new tart wine ſtill in the verdure, whereto is added one gallon of honie, and a *cyath of ſalt, and ſo boiled all toge ther. But I muſt not forget to place among theſe ſundrie kinds of drink, the liquor Protropum, for ſo ſome call new wine running it ſelfe from the grapes, before they bee troden and preſſed. But to have this good, and ſo to ſerve the turne, ſo ſoone as it is put up into proper veſſels for the purpoſe, it muſt be ſuffered to worke: and afterwards to reboile and worke againe for fortie daies ſpace the Summer following, even from the very beginning of the dog daies, and ſo forward.

* an ounce and a halfe.

E

Chap. x.

Of weake and ſecond Wines, three kinds.

THe ſecond Wines (which the Greekes call Deuteriæ, *Cato* and wee Romanes name Lora) cannot properly and truly be called Wines, being made of the skins and ſeeds of grapes ſteeped in water: howbeit, reckoned they are among courſe houſhold wines for the hines and meinie to drinke. And three kinds there be of them. For ſometime to the tenth part of the new wine that hath beene preſſed out, they put the like quantitie of water, and ſuffer the foreſaid refuſe of the grapes to ſoke therein a day and a night: which done, they preſſe it forth againe. A ſecond ſort there is, which the Greekes were wont to make in this manner: They take a third part
F of water in proportion of the wine that was preſſed forth, and after a ſecond preſſing, they ſeeth it to the waſting of the third part. The third is that which is preſſed out of the wine lees, and this *Cato* calleth Fœcatum, [i. Wine of lees.] But none of theſe wines or drinkes will endure above one yeare.

Chap.

G

Chap. xi.

What neat wines began of late to be in request in Italie.

In this treatise of wines I cannot omit this observation: That whereas all the good wines, properly so called and knowne in the whole world, may bee reduced in foureſcore kinds or thereabouts; two parts of three in this number, may well be counted wines of Italie: which in this regard farre surpasseth all other nations. And hereupon ariseth another thing more deepely to be noted, That these good wines were not so rife nor in such credite from the beginning, as now they be.

H

Chap. xii.

Observations touching wine.

To say a truth, Wines began to grow into reputation at Rome, about sixe hundred yeares after the foundation thereof, and not before. For king *Romulus* used milke when hee sacrificed to the gods, and not wine: as may appeare by the ceremoniall constitutions by him ordained, as touching religion; which even at this day bee in force, and are observed. And king *Numa* his successour made this law Posthumia in his latter daies, Let no man besprinckle the funerall fire with vvine. Which Edict no man doubteth but he published and enacted in regard of the great want and scarcitie of wine in those daies. Also by the same Act hee expressely did prohibite to offer in sacrifice to the gods, any wine comming of a Vine plant that had not ben cut and pruned: intending by this devise and pretence of religion, to enforce men to prune their Vines, who otherwise would set their minds upon husbandrie only and plowing ground for corne, and bee slow ynough in hazarding themselves for to climbe trees, whereunto Vines were planted. *M. Varro* writeth, That *Mezentius* the king of Tuscane aided the Rutilians of Ardea in their wars against the Latines, for no other hire and wage but the wine and the vines which then were in the territorie of Latium.

I

Chap. xiii.

Of the auncient usage of wine: and the wines in old time.

K

In auncient time, women at Rome were not permitted to drinke any wine. We read moreover in the Chronicles, That *Egnatius Mecennius* killed his owne wife with a cudgell, for that he tooke her drinking wine out of a tun; and yet was hee cleared by *Romulus*, and acquit of the murder. *Fabius Pictor* in his Annales reporteth, That a certaine Romane dame, a woman of good worship, was by her owne kinsfolke famished and pined to death, for opening a cupbord, wherein the keies of the wine-sellar lay. And *Cato* doth record, that hereupon arose the manner and custome, That kinsfolke should kisse women when they met them, to know by their breath whether they smelled of Temetum: for so they used in those daies to tearme Wine: and thereof drunkennesse was called in Latin Temulentia. *Cn. Domitius* (a judge in Rome) in the like case pronounced sentence judicially against a woman defendant, in this forme, That it seemed she had drunke more vvine vvithout her husbands knovvledge, than vvas needfull for the preservation of her health, and therefore awarded definitively, That she should loose the benefit of her dowrie. Certes, the Romans for a long time made great spare of wine. *L. Papyrius* lord Generall of the Romane armie, when he was at the point to joine battell with the Samnites, made no other vow, but this, That he would offer unto *Iupiter* a little cup or goblet of wine, in case hee atchieved the victorie and woon the field. Over and besides, we find in histories, that among donatives and presents, certaine sextars or quarts of milke have been many times given, but never any of wine. The same *Cato* abovenamed, after his voiage into Spaine (from whence he returned with victorie and triumph) in a solemne speech that hee made unto the people, protested in these words and said, *No other wine have I drunke since I went, than the very mariners have.* How farre unlike was he to men in these daies, who sitting at the table, have their cup of strong wine by themselves, and give to their guests other small wines to drinke: or if they suffer them to drinke all one and of the best at the beginning of the feast, they

L

M

will

A will be ſure to chaunge and to ſerve them with worſe ſoone after. In old time, the beſt wines uſed at feaſts were aromatized and ſpiced with ſweet Myrrhe: as appeareth in the Comœdie of *Plautus* entituled Perſa. And yet it ſhould ſeeme there, that ſweet Calamus was to be added beſides. And hereupon it commeth, that ſome have thought, how our forefathers in times paſt tooke moſt delight in ſuch ſpiced cups and Ippocras wines. But *Fabius Dorſenus* the Poet, ſufficiently declareth and decideth this point in theſe verſes, when he ſaith:

Mittebam vinum pulchrum, Murrhinam.

I ſent neat wine,
Which hight Myrrhine.

B And againe in his Comedie *Acharistio*:

Panem & Polentam, vinum Murrhinam.

Both bread and grewell I did preſent,
And Myrrhine wine of pleaſant ſent.

I ſee moreover, that *Scævola*, *Lælius*, and *Atteius Capito* were of the ſame mind. For in the Comedie of *Plautus* entituled *Pſeudolus*, thus it is written:

Quod ſi opus eſt ut dulce promat
C *Indidem, ecquid habet?* Char. *Rogas?*
Murrhinam, paſſum, Defrutum, mella.

Of dulcet wine if there be need,
What hope is there from thence to ſpeed?
Char. Why aske you that? he furniſh'd is
With Murrhin, Cuits, and Meade ywis.

By which a man may ſee evidently, that Murrhina was not only counted a wine, but reckoned alſo among the ſweet and delicate wines.

D

Chap. XIIII.

Of wine ſtore-houſes: and of Opimian wine.

THat there were wine-ſellars at Rome, and that they uſed there to tun up wine in the 633 yeare after the foundation thereof, appeareth plaine by a good proofe of the Opimian wine: and even in thoſe daies Italie knew her owne good, and what it was to maintain vineyards. Howbeit, as yet were not thoſe wines in credite, which now are ſo rife and in ſo great account. And therefore it is, that all the wines of that time beare the onely name of that one Conſull, and be called Opimian. And thus afterwards alſo in proceſſe of time, the wines that came
E from beyond the ſeas for a long ſpace, were in much requeſt, even untill our grand-fathers daies: yea, and after that, the Falerne wines were in name and called for, as may appeare by that verſe of the Comicall Poët:

Quinque Thaſij vini inde depromam, Falerni bina.

To meaſures five of Thaſian wine,
I will draw twaine of Falerne fine.

In the 675 yeare after the building of Rome, *Pub. Licinius Craſſus* and *L. Iulius Cæſar*, Cenſors for the time being, publiſhed an edict and proclaimed, That no man ſhould ſell any
F Greeke vvine or Aminean, but after eight Asses the Amphor or Quadrantum. For theſe be the very expreſſe words of the ſaid Edict. Now was Greeke wine of ſo great price and eſtimation, that a man was but allowed one draught thereof at a meale, were the cheare never ſo great, and the feaſt right ſumptuous. But what wines were in requeſt ordinarily at the bord, *M. Varro* ſheweth in theſe words: *L. Lucullius* (quoth he) while he was a boy, never ſaw at his

his fathers boord Greek wine ſerved up but once at a meale, how good ſoever the fare was otherwiſe. Howbeit, himſelfe when he returned out of Aſia, in a congiarie or largeſſe that hee gave unto the people, made a dole and diſtribution of more than an hundred thouſand meaſures, of gallons apeece. *C. Sentius*, whom of late daies we ſaw Pretour of Rome, teſtified, that hee never ſaw any wine of Chios brought into his houſe, before that the Phyſician preſcribed and ſet it downe for the *Cardiaca paſsio*, or the trembling of the heart, whereunto hee was ſubject. But contrariwiſe *Hortenſius* when he died, left above ten thouſand barrels full of that wine to his heire. And thus much out of *M. Varro*.

Chap. xv.

Of Cæſars bountie and liberalitie in wine.

BVt what ſhould wee ſay of *C. Iulius Cæſar* Dictatour? In that ſolemne feaſt of his which hee made at his triumph, did not he diſtribute among his gueſts Falern wines by the whole barrels, and Greeke wine of Chios by the rundlets? After his returne out of Spaine with victorie and triumph, he likewiſe gave away a largeſſe of wine as well Chian as Falerne. But at the roiall dinner which he made when he entred upon his third Conſulſhip, he cauſed all the hall to bee ſerved throughout with Falerne, Chian, Lesbian, and Mamertine wines: which was the firſt time that ever any man ſaw the ſervice of foure ſeverall wines at one feaſt. Now in farther proceſſe of time, and namely about the 700 yeare after Rome cities foundation, all other wines began to beare a name and come in requeſt.

Chap. xvi.

Of artificiall or made wines.

COnſidering all that hath beene written, I nothing marvell at ſuch an infinite numbers of compound and artificiall wines deviſed in old time, all for the uſe of Phyſicke, whereof wee will now treat in more ample manner. To begin therfore with Wine-verjuice called Omphacium, how it ſhould be made (for perfumes and odoriferous ointments) wee have ſhewed in the former booke. As for the wine named Oenanthinum, it is made of Labruſca, that is to ſay, the wild Vine, in this wiſe: Take two pound of the flowers of the wild Vine aforeſaid; let the ſame bee ſteeped in a meaſure of new wine, containing about twelve *gallons, for the ſpace of thirtie daies, and then be chaunged out of that veſſell into another. Moreover, the root and the grapes of the ſaid wild Vine, are good for curriers to dreſſe their leather. The ſame grapes a little after they have done blooming, are taken to be a ſingular remedie for to coole thoſe that be troubled with hote and ardent diſeaſes, for naturally they be (as men thinke) exceeding cold: and indeed many of theſe grapes die in the hote time of Summer before the reſt which are called Solſtitiales: but all of them never come to full and perfect ripeneſſe. Now if you would keepe Pullein from pecking grapes, take theſe of the wild Vine before they be throughly ripe, mingle & ſeeth them with their meat: for this will take away all their appetite that way, and breed a loathing after all grapes.

*12 congios.

To come now unto the artificiall wines beforenamed: the firſt of them, namely that which they call Adynamon, [*i.* without ſtrength] is made of very wine in this manner: Take of new white wine twentie Sextars [*i.* quarts:] of water halfe as much: let them boile together untill the meaſure of water beforeſaid bee conſumed. Some take of ſea-water ten Sextares, of raine water as much: and when they be mingled together, ſuffer them to worke in the hote Sunne for the ſpace of fortie daies. This drinke they uſe to give unto patients, for ſuch maladies as they feare wine would be hurtfull to. A ſecond made wine there, is called Millet wine, after this ſort: Take of Millet ſeed that is ripe, huske, head and all, a pound and a quarter, put it into two gallons of Muſt or new wine: after that it hath lien there infuſed ſeven moneths, let the liquor run from it into another veſſell, and keepe it for your uſe. As touching the wines of Lotus, as well the tree and ſhrub, as the hearbe, wee have ſhewed ſufficiently how they ought to be made. Moreover, there bee many wines made of ſundrie fruits, which wee will write of hereafter more at large: with a ſupplement and addition of ſuch interpretations onely as be neceſſarie. And in the firſt place commeth the Date-wine, which the Parthians, Indians, and all the nations of the Eaſt in generall

A nerall doe ordinarily uſe. A Modius or pecke of ripe and ſweet Dates, which they call Chydeæ, they let lye to ſteepe in three gallons of water, and ſo preſſe for a liquor for the Date wine. Alſo the Figge-wine Sycites, of the figge which ſome call Palmiprimum (as a man would ſay, Dates fellowes, or next to Dates) others Catorchites, is made after the ſame faſhion. But if a man liſt not to have it ſo ſweet, in ſtead of water they uſe to put as much of the ſtones, skins, and ſeeds of grapes. Of the Figge of Cypreſſe there is an excellent vinegre made: yea and a better than it of the Alexandrine figges, to wit, growing upon the Sycomore. Likewiſe a wine is made of the fruit in Syria, called Siliquæ; as alſo of peares and all kind of apples. As for the wine of Pomegranates, the Greekes name it Rhoites: beſides the fruit of the Corneil or wild Cherrie-tree; Medlars, Cerviſes, drie Mulberries, and Pine-nuts, doe yeeld ſeverall ſorts of wines. As for theſe
B Pine-nuts, they muſt lie ſteeped in new wines before the wine be preſſed out of them. The reſt all be pleaſant enough of themſelves, and will ſerve alone for to make wines. The manner of making Myrtle wine (according to the receit and preſcription of *Cato*) wee will declare ſoone hereafter. For the Greekes have another way of their owne, to wit, when they have ſodden in white Muſt or new wine, the tender braunches of the Myrtle, togither with the leaves, and then ſtamped the ſame, they put a pound thereof in three gallons more of Muſt, and cauſe it to boile untill ſuch time as a third part of the wine be conſumed. Now that which is made after the ſame manner of the wild Myrtle-berries, they call Myrtidanum; and this will colour and ſtaine ones hands blacke.

Furthermore, the hearbs of the garden doe affourd us many wines, namely Radiſh, Sparage, Savorie, and Majoran, Origan, Smallach ſeed, Southernwood, wild Mints, Rue, Nep or
C Calaminth, running Thyme, and Horehound. To make theſe wines, take of the hearbs aboveſaid, two handfuls, and when they be ſtamped, put them into a little barrell of new wine containing twelve or thirteene gallons, togither with a wine quart of Cuit ſodden to the thirds, and a pint of ſea water. But for the wine of Navewes, you muſt take eleven drams of them, and two quarts of new wine, and ſo put them togither in manner aforeſaid. In like ſort alſo the wine Squilliticum is made of the the root of Scilla, or the ſea Onion.

To proceed unto wines made of flowres, you have firſt and foremoſt wine Roſat, after this manner: Take the weight of fortie deniers [*i.* eight ounces] of Roſe-leaves well ſtamped, put them into a linnen cloth, togither with a little weight, that they may ſettle downward and not
D flote aloft; let them hang thus in twentie Sextars [*i.* three gallons] and two wine quarts of Muſt; keepe the veſſell cloſe ſtopped in any caſe for three moneths, then open it and ſtraine the ſaid floures unto the liquor. In like manner is there a wine made of the Celticke Spikenard, as alſo of the Nard-ſavage. I find alſo, that they uſe to make a kind of ſpiced wine or Ipocras, not for ſweet perfumes and ointments onely, but alſo for to drinke. At firſt (as I have ſhewed) they made theſe aromaticall wines with myrrhe only, but ſoone after they added thereto Nard Celtick, ſweet Calamus, and Aſpalathus: either ſlicing theſe drugs, or putting them by gobbets into new Muſt or ſome dulcet wine. Some aromatize their wine with Calamus, Squinanth, Coſtus, Spikenard, Amomum, Caſia, Cinamon, Saffron, Dates, and Azara-bacca, put thereto in like manner by gobbets. Others take Spikenard and Malabathrum, of each halfe a pound to two gallons of
E new wine. Much after the ſame manner we ſpice our wines now adaies alſo, but that we adde pepper and honey thereto: which ſome call Condite, others Pepper-wines. Moreover, there is deviſed a wine called Nectarites, made of Elecampane, named by ſome Helenium, of others Medica, Symphyton, Idæa, Oreſtion: and there be alſo that tearme this hearb Nectarea. Now the order of it, is to take of the root fortie drams to ſix Sextars of Muſt or new wine, and hang it in a cloth togither with a weight, in manner aboveſaid. Moreover, there be wines made of other hearbs, to wit of Wormwood, in this ſort: Take of Pontick wormwood one pound, ſeeth it in fortie Sextars [about ſix gallons and a halfe] of new wine, untill a third part bee conſumed: or without boiling, put certaine handfuls or bunches thereof into a veſſell of wine, and ſo let it lye infuſed. After the ſame ſort is Hyſſope wine made, to wit, of three ounces (which is a quarter
F of a pound) of Cilician Hyſſope caſt whole as it is into two gallons of Muſt, and ſo let them worke togither: or elſe ſtampe the Hyſſope, and ſo put it into wine: but both theſe wines are made another manner of way, namely, by ſowing or ſetting Wormwood and Hyſſope at the verie root of the vine-plant: for ſo *Cato* teacheth us to make Ellebore wine, of blacke Ellebore or Bearefoot growing at the vine root. And in like manner alſo is made the Scammonite wine.

A wonderfull nature and propertie that these vines have, To draw and sucke into them the very G
taſt of other hearbs and plants that are set neare unto them: for even so all the grapes about
Padua have a relliſh of the Willowes and Oſiers that grow there in the mariſh grounds. In this
wiſe the men of Thaſos doe plant and sow either Ellebore or wild Coucumber, or els Scammo-
nea, about their vines, to make thereof their deviliſh wine Pthorium, ſo called, becauſe it cauſeth
a ſlip and procureth untimely birth. Of more hearbs beſides, there bee other wines made: the
vertues of which hearbs, we will ſet downe elſewhere in place convenient: and namely, of Stœ-
chos, the root of Gentian, of Tragoriganum, of Dictamum, Aſarabacca, of Daucus or yellow
Carot, Sauge, Panace, Acorus or Galangal, Conyza or Cunilago, Thyme, Mandragoras, and
Squinanth. More ſuch wines there were yet, which the Greeks called Scyzinum, Itæomelis, and
Lectiſpagites; but as they be growne now out of uſe, ſo the manner of making is unknowne. H

As touching wines made of trees and ſhrubs, their manner was to ſeeth the berries or the
greene wood of both the Cedars, the Cypreſſe, the Bay, Iuniper, Terebinth, Pine, Calamus,
and Lentiske, in new wine. In like manner, the very ſubſtance of Chamelæa, Chamæpithys, and
Germander. Laſt of all, the flowers alſo of the ſaid plants ſerve to make wines, namely by putting
in to a gallon of new wine in the vat, the weight of ten deniers or drams of the flowers.

Chap. xvii.

Of *Hydromel, and Oxymel*: [*i. honyed water, and honyed vinegre.*]

THere is a wine called Hydromel, made of water and honey onely: but to have it the bettet, I
ſome doe preſcribe raine water, and the ſame kept five yeeres for that purpoſe. Others who
are more wiſe and skilfull herein, doe take raine water newly falne, and preſently ſeeth it un-
till a third part be boiled away; then they put thereto a third part alſo of old hony in proportion
to it: and ſo let them ſtand togither in the Sunne for fortie daies togither, from the riſing of the
Dog-ſtarre. Others, after they have remained thus mingled and incorporate togither ten daies,
put it up and reſerve it cloſe ſtopped for their uſe; and this is called Hydromel: which when it
is come to ſome age, hath the very taſt of wine: and no place affourdeth better than Phrygia.

Moreover, vinegre was wont to be tempered with honey, [See how curious men have been to
trie concluſions in every thing!] which they called Oxymel, and that in this manner: *Recipe*, of
honey, ten pounds or pints; of old vinegre, five pints; of ſea ſalt, one pound; of raine water, five K
Sextares [*i.* a gallon within one quart:] Boile them all togither at a ſoft fire, untill they have had
ten plawes or waulmes: which done, poure them out of one veſſell into another, and ſo let the
liquor ſtand & ſettle a long time, untill it be ſtale. All theſe wines and compoſitions thus brued,
Themiſon (an Author highly renowmed) hath condemned and forbidden expreſſely to be uſed.
And to ſay a very truth, it ſeemeth that the uſe of them was never but in caſe of neceſſitie: un-
leſſe a man would beleeve and ſay, that Ipocras, ſpiced wines, and thoſe that be compounded of
ointments, are Natures worke; or that ſhee brought foorth plants and trees to no other end, but
that men ſhould drinke them downe the throat. Howbeit, the knowledge ſurely of ſuch experi-
ments, be pleaſant and delectable unto men of great wit and high conceit, whoſe noble ſpirits
cannot be at reſt, but ever inventive and ſearching into all ſecrets. Now to conclude this point, L
certaine it is and paſt all queſtion, that none of all theſe compoſitions (unleſſe it be thoſe which
come to their perfection by age and long time) will laſt one yeere full out: nay moſt of them will
not keepe good one moneth to an end.

Chap. xviii.

Certaine ſtraunge and wonderfull kinds of wine.

WIne alſo hath prodigious and miraculous effects: for (by report) in Arabia there is a
wine made, which being drunke will cauſe barrain women to beare children; and con-
trariwiſe drive men into madnes. But in Achaia principally about Carynia, the wine M
maketh women fall into untimely travell: nay if a woman great with child doe eat but the very
grapes, they will ſlip the fruit of their wombe before their time: and yet both grape and wine
differ not in taſt from others. They that drinke the wine comming from the cape of Trœzen, are
thought unable for generation. It is reported, that the Thaſiens doe make two kinds of wine of

contrary

A contrary operations; the one procureth sleepe, the other causeth watching. Among them there is a vine called Theriace, the grape whereof, as also the wine, cureth the stings and biting of serpents, as it were a most especiall Treacle. As for the vine Libanios, it carrieth the odor and smell of Frankincense, and therefore is used in sacrifices to the gods. But contrariwise another named Aspendios, is utterly condemned for that purpose, and no wine thereof is employed at the altar: they say also, that no Foule will touch the grapes thereof. There is a kind of grape in Ægypt, which they call Thasia, exceeding sweet it is, and looseth the bellie. But contrariwise there be in Lycia, that bind as much and cause costiveness. The grapes Echolides in Ægypt, if they bee eaten, cause women with child to be delivered before their time. Some wines there be, that as they lie in the verie cellar, will turne and proove sower about the rising of the Dog-starre; but af-
B terwards will recover their verdure, and become quick and fresh againe. In like manner there be wines, that upon the sea will chaunge: howbeit the agitation thereof, causeth those wines that endure it to the end, to seeme twice as old as they be indeed.

Chap. xix.

What Wines they be that may not be used in Sacrifices: and what waies there are to sophisticate new wines.

For asmuch as our life standeth much upon religion and divine service, we are to understand; That it is held unlawful to offer unto the gods before sacrifice, the wine of any vine that hath
C not been cut and pruned; or that hath been smitten and blasted with lightning; or standing neare to a jebbit or tree whereon a man hath hanged dead; or the grapes whereof have been troden by men whose leggs or feet have been wounded; neither is that wine allowable for this purpose, which hath been pressed and run from the refuse of grape-stones and skins once bruised and crushed in the presse; or last of all, if the grapes have been filed by any ordure or dung falne from above thereupon. Moreover, Greeke wines are rejected from this holy use, because they have water in them. Furthermore the vine it selfe is holden good to be eaten, namely, when the burgens and tendrils bee first sodden, and afterwards preserved and kept in vinegre, brine, or pickle. Over and besides, it were very meet and convenient to speake also concerning the manner of preparing and ordering wine, seeing that the Greekes have travailed in that point seve-
D rally, and reduced the rules thereto belonging, into the forme of an Art; and namely, *Euphronius*, *Aristomachus*, *Contades*, and *Hicesius*, are therein great professors. The Africans use to mitigate and allay the tartnesse of their wines with plastre, yea and in some parts of their countrey, with lime. The Greeks contrariwise doe fortifie and quicken them with clay, with powder of marble, with salt, or sea water. And in some places of Italy, they use (to the same effect) the shavings and scrapings of stone-pitch. Also it is an ordinarie thing in Italy and the provinces thereto confining, for to condite their new wines and to season them with rosin: yea and in some places they mingle therewith the lees of other old wine or vinegre. Oftentimes also they make slibber-sauces of it selfe without any other mixture; namely, when they boile new wine sufficiently to the proportion of the strength, untill the hardnesse do evaporate, and that it wax mild and sweet:
E but being thus ordered, it will not last (they say) above one yeare. In some countries they use to seeth their new wine to the consumption of a third part, and make it cuit, with which they are wont to delay the sharpnesse and strength of other wines, and make them pleasant. But both in this kind of wine and in all others, the vessels ought to be prepared for the purpose, and seasoned with pitch: the treatise of which, we will put off unto the next booke, where wee purpose to treat thereof, and the manner of making it.

Chap. xx.

Of divers kinds of Pitch and Rosins. The manner of the seasoning and confecture of new Wines. Also of Vinegre and Salt.

F

Among trees that yeeld from them a liquid substance, some there be in the East countries, and others in Europe, which ingender Pitch and Rosin. Asia likewise between both, hath of either side of it, some such trees. As for the East, the Terebinths put out Turpentine, the best and cleerest Rosin of all others: next to them, the Lentiskes also have their Rosin, which

they call Maſtick. After which, the Cipreſſe bringeth forth a third roſin, but it is of a moſt ſharp and biting taſt. All theſe trees (I ſay) carie a roſin only, and the ſame thin and liquid: but the Cedar ſendeth out a thicke ſubſtance, and good to make pitch and tarre. As for the roſin or gum Arabicke, it is white of colour, ſtrong in ſmell, untoward & troubleſome to him that ſhall boile it. That of Iurie is harder, yea, and of a ſtronger ſavour than Turpentine. The Syriacke gum reſembleth the honie of Athens. The Cyprian excelleth all others: of a fleſhie ſubſtance it is, and like in colour to honie. The Colophonian is deeper of colour, and reddiſh: beat it to pouder in a morter, it proveth white: but it carieth a ſtrong ſmell with it; which is the reaſon, that the perfumers and makers of ointments have no uſe thereof. As for that which the Pitch trees of Aſia doe yeeld, it is paſſing white, and the Greekes call it Spagas. All roſins generally will diſſolve in oile. Some thinke verily, that potters clay will likewiſe doe the ſame. But I am abaſhed and aſhamed to report, how in theſe daies the ſame pitch whereof we ſpeak, ſhould be in ſo great account as it is, for making of pitch plaiſters, to fetch off the haire of mens bodies, and all to make them more ſmooth and effeminate. Howbeit, the manner of ſeaſoning new Muſt therewith (that when it is perfect wine it may ſmell of pitch, and bite at the tongues end) is to beſtrew it with the pouder of pitch at the firſt working, the heat whereof is commonly paſt and gone in nine daies. And ſome thinke, that the wine will bee the ſtronger, if the raw and greene flower of the roſin, as it iſſueth freſh out of the tree, bee put therein; for it will quicken a ſmall and weake wine. Now this mixture and medicine of wine [called Crapula] made thus of roſin, hath contrarie effects: for if the wine be over-headie and ſtrong, it allaieth and mortifieth the hurtfull force thereof: but if it be too weake, or drinke dead and flat, it reviveth againe, and giveth it a ſtrong taſt. In Liguria, and principally along the Po, they uſe to ſeaſon their wines, and bring them all to their ſeverall perfections in this manner. If the wine when it is new, be mightie and ſtrong, they put in the more of this medicine or confection called Crapula: if it be mild and ſmall, then the leſſe goes into it: and keeping this gage with their hand, they make both good. Some would have one wine brued with another, the weaker with the ſtronger, and ſo (forſooth) there muſt needs ariſe a good temperature of both together: and verily there is not a thing in the world againe, which hath in the nature thereof ſo great varietie.

In ſome countries, if new wine worke of it ſelfe a ſecond time, it is thought to bee a fault and meanes to corrupt it: and indeed, upon ſuch a chaunce and unhappie accident it looſeth the verdure and quicke taſt: whereupon it getteth the name of Vappa, and is cleane turned to bee dead or ſoure: in which regard alſo, we give a man that name by way of ſcorne and reproch, calling him Vappa, when he is heartleſſe, void of reaſon and underſtanding. If it were vinegre indeed, it were another matter: for ſurely although wine degenerat into it by way of corruption and putrifaction, yet a vertue and force it hath, good for many ſpeciall uſes, and without which it were not poſſible to live ſo delicately at our table as we doe. Moreover, the world is ſo much given to keepe a bruing, tempering, and medicining of wines, that in ſome places they ſophiſticate them with aſhes, as it were with plaiſter: in other, they fortifie, recover, and make them again by ſuch deviſes as are before ſpecified. But to this purpoſe they take the aſhes to chuſe, of vine cuttings, or of the oke wood, before any other. And forſooth if there be occaſion to occupie ſea-water for this buſines, they preſcribe them to fetch it far from land in the deep ſea; & kept beſides from mid March or the ſpring Æquinox, or at leaſtwiſe from mid-Iune or ſummer ſunne-ſtead; and drawne in the night ſeaſon, and when the North wind doth blow: but if it bee gotten neare the time of vintage, then it ought to be well boiled before it will ſerve the turn. As for the pitch in Italie, that of Brutium or Calabria is reputed for the beſt, to trim thoſe veſſels which are to keep wine. There is made of the roſin of the tree Picea (as alſo in Spain there commeth from the wild Pines) a certain pitch, which of all other is worſt: for the roſin of thoſe trees is bitter, drie, and of a ſtrong ſavor. The difference and ſundrie kinds of pitch, as alſo the manner of making the ſame, we will ſet down in the booke next following, in the treatiſe of wild & ſavage trees. The faults & imperfections of pitch, over and beſides thoſe even now rehearſed (to wit, bitterneſſe, drineſſe, & ſtrong ſent) are knowne by the foureneſſe, by the ſtinking ſmoke, and the very aduſtion thereof. But yee ſhall know good pitch by theſe experiments, If the peeces broken from it doe ſhine, if betweene the teeth it relent and be clammie like glew, and have a pleaſant ſharpeneſſe and ſoure taſt withall of the vinegre. In Aſia the pitch is thought beſt which commeth of the trees in mount Ida. The Greeks eſteem the trees of the hill Pieria cheefe for this purpoſe: and *Virgil* commendeth that of Narycia before all.

But

A But to returne againe to our burning and sophistication of wines, they that would seeme to be cunninger, or at leastwise more curious than their fellowes, doe mingle therewith blacke Masticke, which is engendred in Pontus, and is like to Bitumen; and thereto adde the root of Iris or the flower de Luce, and oile. For this is found by experience, That if the vessels be fered with wax, the wines therein will not hold, but turne soure quickly. Moreover, we daily see, that better it is to put up wine into those vessels, wherein vinegre hath been kept afore, than into such as had dulcet or honied wine. *Cato* setteth down a receit to trim and concinnate wine (for that is the very tearm which he useth) in this manner: Take of lie ashes sodden with cuit boiled to the halfe, one fortieth part; temper it with a pound and a halfe of peniroiall, or salt, and otherwhiles with marble braied and beaten into pouder among. Hee maketh mention also of brimstone, but rosin hee nameth B with the last. But above all he willeth to refresh & renue the wine when it now beginneth to come unto maturitie & perfection, with new wine which he calleth Tortivum; & I take it, that he meaneth that which ran last out of the wine-presse: which hee prescribeth also to bee put unto new wines for to get them a fresher colour, as the very tincture of wine: and so it will be also of a more fattie substance, and goe downe more glib and merrily. See, see, how many devises of medicines and slibber-sauces the poore wine is forced to endure, and all to please our pallat, our eie, and other sences: and yet ywis we marvell that it is so hurtfull to our bodies. Well, would you have an experiment to know when wine is going, or enclining to be dead and soure? dip therein a thin plate of lead; if it chaunge colour, take it for a signe, that it is in the way of decaying. Of all liquors, wine hath this propertie to vinew, to pali, and to change into vinegre. But a thousand me- C dicines it doth affoord, and bookes of Physicke are full thereof. Moreover, wine lees being dried, will serve as a match to keepe fire: and without any other fewell to feed it, yee shall have it burne and flame of it selfe. The ashes thereof is of the nature of Nitre, and hath the same vertues: and in this regard somewhat more, for that it is found to be more fattie and uncteous.

Chap. xxi.

Of wine-cellars.

D NOw when wine is made and tunned up in manner aforesaid, there is as great difference and diversitie in the bestowing of it in cellars. They of Piemont about the Alpes, doe put up their wines in woodden barrels, bound well with hoopes, for warmth: and moreover, if the winter be very cold, they make fires in their cellars or butteries, to keep them for being frozen. I will tell you a strange wonder, yet true and to be verified, not by hearesay but plain eiesight. There were seene upon a time whole heapes and huge lumpes of wine congealed into ice, by occasion that the hoopes of the hogsheads burst that contained the wine: and this was held for a prodigious token. For indeed wine of it owne nature will not congeale and freeze, onely it will loose the strength, and become appalled in extremitie of cold. In warmer climates and more temperate, they fill their wines into great stands and steanes of earth, which they set into the ground, either over the head all whole, or els by halfe; deeper or shallower, according to the situation and temperature of the region. Likewise they give the wine open aire in some places: whereas in other E they keepe it close within house in tavernes and cellars. And thereto belong these and such like rules. First, that one side of the wine-cellar, or at leastwise the windowes, ought to stand open to the North, or to the East in any wise, where the Sunne riseth at the time of the Æquinoctiall. *Item*, that there be no muckhils nor privies neare: no roots of trees, nor any thing of a strong and stinking savor: for that wine is of this nature, to draw any smell very quickly into it: and above all, Fig-trees (as well the wild as the tame) be hurtfull to wine-cellars. *Item*, as touching the order of placing the wine vessels, they ought to stand a pretie distance one from another: for feare of contagion, for that wine is alwaies most apt to catch infection very soone. Moreover, it mattereth much of what proportion and fashion the pipes, tubs, and such vessels be made. Those with great bellies and wide mouths, are not so good. Also they must bee nealed with pitch, presently upon F the rising of the dog starre: afterwards douzed and washed all over either in the sea or els salt water, then to bee seasoned and strewed with vine ashes or cley: and when they bee scoured, they ought to sweeten them with a perfume of Myrrhe; which were good to be done also unto the very cellars oftentimes. Furthermore, if the wines be weake and small, they had need to be kept in tubs and hogsheads, let downe within the ground: but the strong and mightie wines may lie above

ground in the open aire. Provided alway, that wine veſſels bee never filled top full: but the void G
part that is left, and ſtandeth above the wine, would be throughly dight with thicke wine made of withered grapes, or ſodden wine to the halfe, and ſaffron mingled withall, yea, and old pitch, together with cuit. Thus alſo ought the lids and bungs of the veſſels to bee ordered, with an addition beſides of maſticke and pitch. In the deepe of Winter they muſt not be unſtopped and opened in any caſe, unleſſe the weather bee faire and cleare. Neither when the wind is Southerly, or the Moone in the full. This alſo is to be noted, that the flower or mantle which the wine caſteth up to the top, is good when it is white: if it be red, it is a very bad ſigne, unleſſe the wine it ſelfe bee of that colour. Moreover, if the veſſels bee hote, or the lids doe ſweat, it is no good ſigne. Note alſo, that the wine which ſoone beginneth to mantle and caſt up a floure incontinently, or to yeeld another ſmell than the owne, will not continue long good. As for the cuits, whether they be ſod- H
den to the halfe or the thirds, they ought to be boiled & made when the skie is without a Moon, that is to ſay, in the chaunge, and upon no day els. Moreover, the decoction muſt be in leads, and not in coppers; with walnuts among to receive all the ſmoke, which otherwiſe might infect the cuit. In Campaine they let their beſt wines lie abroad in veſſels, even in the open aire, to take the Sunne, the Moone, raine, and wind, and all weathers that come: and this is thought to bee beſt for them.

Chap. xxii.

Of avoiding Drunkenneſſe.

IF a man marke and conſider well the courſe of our life, we are in no one thing more buſie and I
curious, nor take greater pains, than about wine: as if Nature had not given to man the liquor of water, which of all others is the moſt holeſome drinke, and wherwith all other creatures are well contented. But we thinking it not ſufficient to take wine our ſelves, give it alſo to our Horſes, Mules, and labouring beaſts, and force them againſt Nature to drinke it. Beſides, ſuch paines, ſo much labour, ſo great coſt and charges we are at, to have it; ſuch delight and pleaſure wee take in it; that many of us thinke, they are borne to nothing els, and can skill of no other contentment in this life: notwithſtanding, when all is done, it tranſporteth and carrieth away the right wit and mind of man, it cauſeth furie and rage, and induceth, nay, it caſteth headlong as many as are given thereto, into a thouſand vices & miſdemeanors. And yet forſooth, to the end that we might take the more cups, and poure it downe the throat more luſtily, we let it run through a ſtrainer, K
for to abate and gueld (as it were) the force thereof: yea, and other deviſes there be to whet our appetite thereto, and cauſe us to quaffe more freely. Nay, to draw on their drinke, men are not
* afraid to make poiſons, whiles ſome take hemlocke before they ſit down, becauſe they muſt drink perforce then, or elſe die for it: others, the pouder of the *pumiſh ſtone, & ſuch like ſtuffe, which
*Vide lib. 36. cap. 21.
I am abaſhed to rehearſe and teach thoſe that bee ignorant of ſuch leaudneſſe. And yet wee ſee theſe that bee the ſtouteſt and moſt redoubted drinkers, even thoſe that take themſelves moſt ſecured of daunger, to lie ſweating ſo long in the baines and brothel-houſes for to concoct their ſurfet of wine, that otherwhiles they are caried forth dead for their labour. Yee ſhall have ſome of them againe when they have been in the hot houſe, not to ſtay ſo long as they may recover their L
beds, no not ſo much as to put on their ſhirts: but preſently in the place, all naked as they are, puffing and labouring ſtill for wind, catch up great cans and huge tankards of wine (to ſhew what luſtie and valiant champions they bee) ſet them one after another to their mouth, poure the wine downe the throat without more adoe, that they might caſt it up againe, and ſo take more in the place; vomiting and revomiting twice or thrice together that which they have drunke, and ſtill make quarrell to the pot: as if they had beene borne into this world for no other end but to ſpill and marre good wine: or, as if there were no way els to ſpend & waſt the ſame, but through mans bodie. And to this purpoſe, were taken up at Rome theſe forraine exerciſes, of vaulting and dancing the Moriske; from hence came the tumbling of wraſtlers in the duſt and mire together; for this, they ſhew their broad breaſts, beare up their heads, and carie their neckes farre backe. In all
which geſticulations, what doe they elſe but profeſſe that they ſeeke means to procure thirſt, and M
take occaſion to drinke? But come now to their pots that they uſe to quaffe and drinke out of: are there not graven in them faire pourtraits thinke you of adulteries? as if drunkenneſſe it ſelfe were not ſufficient to kindle the heat of luſt, to pricke the fleſh, and to teach them wantonneſſe. Thus is wine drunke out of libidinous cups: and more than that, he that can quaffe beſt and play the drun-

A drunkard moſt, ſhall have the greateſt reward. But what ſhall we ſay to thoſe (would a man think it?) that hire one to eat alſo as much as hee can drinke, and upon that condition covenant to yeeld him the price for his wine drinking, and not otherwiſe. Yee ſhall have another that will enjoyne himſelfe to drinke every denier that hee hath woon at dice. Now when they are come to that once, and be throughly whitled, then ſhall ye have them caſt their wanton eyes upon mens wives; then fall they to court faire dames and ladies, and openly bewray their folly even before their jealous and ſterne husbands; then (I ſay) the ſecrets of the heart are opened & laid abroad. Some ye ſhall have in the mids of their cups, make their wills, even at the very board as they ſit: others againe caſt out bloudie and deadly ſpeeches at randon, and cannot hold but blurt out thoſe words which afterwards they eat againe with the ſwords point: for thus many a man by a
B laviſh tongue in his wine, hath come by his death and had his throat cut. And verily the world is now growne to this paſſe, That whatſoever a man ſaith in his cups, it is held for ſooth; as if Truth were the daughter of Wine. But ſay they eſcape theſe daungers: certes ſpeed they never ſo well, the beſt of them all never ſeeth the ſun riſing, ſo drowſie and ſleepie they are in bed everie morning; neither live they to be old men, but die in the ſtrength of their youth. Hence commeth it, that ſome of them looke pale, with a paire of flaggie blabd cheekes; others have bleared and ſore eyes: and there be of them that ſhake ſo with their hands, that they cannot hold a full cup, but ſhed and poure it down the floore. Generally they all dreame fearfully (which is the very beginning of their hell in this life) or els have reſtleſſe nights: and finally, if they chaunce to ſleepe (for a due guerdon and reward of their drunkenneſſe) they are deluded with imaginary
C conceits of *Venus* delights, defiled with filthie and abominable pollutions: and thus both ſleeping and waking they ſinne with pleaſure. Well, what becomes of them the morrow after? they belch ſowre, their breath ſtinketh of the barrell, and telleth them what they did over night; otherwiſe they forget what either they did or ſaid, they remember no more, than if their memorie were utterly extinct and dead. And yet our jollie drunkards give out and ſay, That they alone enjoy this life, and rob other men of it. But who ſeeth not, that ordinarily they looſe not onely the yeſterday paſt, but the morrow to come? In the time of *Tiberius Claudius* the Emperour, about fortie years ſince, certain out-landiſh Phyſicians and Monte-banks, who would ſeem to ſet themſelves out by ſome ſtraunge novelties of their owne, and ſo get a name, brought up at Rome a new deviſe and order, to drinke faſting; and preſcribed folke to take a good heartie draught of
D wine before meat, and to lay that foundation of their dinner. Of all nations, the Parthians would have the glory for this goodly vertue of wine-bibbing: and among the Greekes, *Alcibiades* indeed deſerved the beſt game for this worthy feat. But here with us at Rome *Novellius Torquatus* a Millanois, wan the name from all Romans & Italians both. This Lombard had gone through all honourable degrees of dignitie in Rome; he had been Pretor, and attained to the place of a Proconſull. In all theſe offices of ſtate he woon no great name: but for drinking in the preſence of *Tiberius*, three gallons of wine at one draught and before he tooke his breath againe, he was dubbed knight by the ſurname of *Tricongius*, as one would ſay, *The three gallon knight: and the Emperour, ſterne, ſevere, and cruell otherwiſe though he was, now in his old age (for in his youthfull daies hee was given overmuch to *drinking of wine) would delight to behold this renowmed
E and worthie knight, with great wonder and admiration. For the like rare gift and commendable qualitie, men thinke verily that *C. Piſo* firſt riſe: and afterwards was advanced to the Provoſtſhip of the citie of Rome, by the ſaid *Tiberius*: and namely, for that in his court being now Emperor, he ſat two daies and two nights drinking continually, and never ſtirred foot from the bourd. And verily *Druſus Cæſar* (by report) in nothing more reſembled his father *Tiberius*, than in taking his drinke. But to return again to noble *Torquatus*, herein conſiſted his excellencie, That he did it according to art [for this you muſt take withall, there is an art of Drinking, grounded upon certaine rules & precepts.] *Torquatus* (I ſay) drank he never ſo much, was not known at any time to falter in his tongue, never eaſed himſelfe by vomiting, never let it go the other way under bourd: how late ſoever he ſat up at the wine overnight, he would be ſure to relieve the morning watch & ſentinell.
F He drunke moſt of any man at one entire draught before the pot went from his head; and for ſmaller draughts beſides, he went beyond all other in number; his wind he never tooke while the cup was at his mouth, but juſtly obſerved the rule of drinking with one breath; he was not known to ſpit for all this: and to conclude, he would not leave a drop behind in the cup, not ſo much as would daſh againſt the pavement, & make the leaſt ſound to be heard: a ſpeciall point & preciſe law

* not The thrice-gallant knight. * Whereupon he was called *Biberius Mero*, for *Tiberius Nero*.

to

to prevent the deceit of thoſe that drinke for a wager. A ſingular glorie no doubt in him, and a rare felicitie. *Tergilla* challenged *M. Cicero* the younger, ſonne to that *M. Cicero* the famous Oratour, and reproched him to his face, that ordinarily he drunke two gallons at ones: and that one time above the reſt when he was drunke, he flung a pot at *M. Agrippa* his head. And truly this is one of the fruits and feats of drunkenneſſe. But blame not young *Cicero*, if in this point yet hee deſired to ſurmount him that ſlew his father, *M. Antonius* I meane; for he before that time ſtrained himſelfe, and ſtrove to win the beſt game in this feat, making profeſſion thereof, as may appeare by a booke that he compiled and ſet forth with this title, *Of his owne drunkenneſſe:* wherein he was not aſhamed to avow and juſtifie his exceſſe and enormities that way: and thereby approved (as I take it) under pretence and colour of his drunkenneſſe, all thoſe outrages of his, all thoſe miſeries and calamities that hee brought upon the whole world. This treatiſe he vomited and ſpued out a little before the battell of Actium, wherein he was defeated: whereby it may appeare very plainely, that as hee was drunken before with the bloud of citizens, ſo ſtill hee was the more bloud-thirſtie. For this is a propertie that neceſſarily followeth this vice, That the more a man drinketh, the more he may, and is alwaies drie. And herein ſpake to good purpoſe a certaine Embaſſadour of the Scythians, ſaying, That the Parthians the more they drunke, they thirſtier they were.

As touching the nations in the Weſt part of the world, they have their drinkes alſo by themſelves made of *corne ſteeped in water, whereof they will drinke to the utterance, and be drunke: and namely in Spaine and Fraunce, where the manner of making the ſame is all one, howſoever they have *divers names. And in Spain they have deviſed means that theſe drinks (Ale or Beere) will abide age, and continue ſtale. In Ægypt likewiſe they have invented ſuch kind of drinks made of corne: ſo that no part or corner of the world there is, but drunkenneſſe reigneth. And verily theſe liquors howſoever they bee named, they uſe to drinke entire as they bee, and made of the very ſtrength of Malt: never delaying the ſame with water, as we doe wines. But it may bee ſaid, That Nature hath endowed and enriched thoſe countries with abundance of corn, and therfore they may well doe it. Oh how induſtrious we are to maintaine our vices! There is a deviſe found, (would ever any man have thought it?) how water alſo ſhould make men drunke. Two liquours there be, moſt pleaſing and acceptable to mens bodies, Wine within, & Oile without. Both proceed from two ſpeciall trees, howbeit, of the twaine, Oile is neceſſarie, and Wine may be better ſpared. And verily, men have not been idle in the making of good Oile: howbeit, they have been more addicted and given to make Wines for drinke; as may appeare by this, that reckoning but the generall kinds thereof, a man may find 195 ſorts of wine: but if a man would ſubdivide and diſtribute thoſe heads into their braunches, hee ſhould meet almoſt with twice as many: but of Oiles there bee not ſo many kinds by farre. Whereof wee purpoſe to treat in the booke next following.

*i. Malt.

*Zythus and Curmi, Ale and Beere.

G H I K L M

THE

THE XV. BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

Chap. 1.

The natures of Trees that beare Fruit.

THere were no Olive trees grew in Italie, but upon the coast side, and that within fortie miles of the sea, about the 440 yeare after the foundation of the citie of Rome; if it bee true that *Theophrastus* saith, who was one of the most famous and renowmed Authors among the Greekes. *Fenestella* writeth moreover, and affirmeth, That during the reign of *Tarquinius Priscus* (which was much about the 183 yeere from the foundation of the citie of Rome) there were no Olive trees at all to be found, either in Italie, Spaine, or Africk: whereas now at this day they are seene all Italie over, yea and bee come as farre as the regions beyond the Alpes, even into the mids and very heart of Fraunce and Spaine. Indeed, in the yeare after the foundation of Rome 505 (which was when *Appius Claudius*, the nephew of that great *Appius Claudius* surnamed The blind, and *L. Iunius* were Consuls togither) a pound of the oyle was sold for twelve asses: and not long after (namely, in the 680 yeere) *M. Seius* the sonne of *Lucius* (one of the Ædiles-Curule for the time beeing) brought downe the market so well, that a man might have bought ten pound for one As; and at that price he served the people of Rome thoughout all that yeere. Lesse cause therefore a man hath to marveile hereat, who knoweth how not past 22 yeeres after that, (namely when *Cn. Pompeius* was the fourth time Consull) Italy was able to furnish other nations and provinces with oile of Olives. *Hesiodus* also (who was especially addicted to the studie of husbandrie, and of all things thought it most necessarie to be taught and published for the good of mankind) wrate thus much concerning the Olive, That never a man was knowne to that day for to have gathered the fruit of that Olive tree, which himselfe had planted: so late of growth were those trees in his time, and so slowly came they forward. But now adaies they come up of kernels and stones set in plots of ground for the purpose: and being transplanted againe, they beare Olives the second yeare after. *Fabianus* saith, That Olives love not to grow either in the coldest or the hotest grounds.

Virgill hath set downe three kind of Olives, to wit, Orchitæ [*i.* the great round Olives:] Radij [*i.* the long Olives:] and those which are called Pausiæ. He saith moreover, That the Olive trees require no tending or dressing at all, and need neither the hooke to be pruned, nor the rake and harrow to be moulded, ne yet the spade to bee digged about. Doubtlesse, the goodnesse of the soile, and the temperature of the climat especially, are very requisite and much materiall alone, without farther helpe: howbeit they use to be cut and pruned, yea they love also to be scraped, polished, and cleansed betweene where the branches grow over-thick, even as well as vines, and at the same season.

The time of gathering Olives ensueth presently upon the vintage of grapes: but greater industrie and skill is required to the making and tempering of good oile, than about new wine: for ye shall have one & the selfesame kind of Olive to yeeld a different juice, and divers oiles. First and foremost, of the greene Olive and altogither unripe, there is drawne the Oile-olive; which hath of all other the best verdure, and in tast excelleth the rest: and of this oile, the first running that commeth from the presse, is most commended: and so by degrees better or worse, as the

oile

oile is drawne before or after, out of the presse: or, according to a late invention, by treading them with mens feet in little paniers, and upon hardles made of small and fine osiers. This is a rule, The riper that the Olive is, the fatter will the oile bee, and more plentifull; but nothing so pleasant in tast. And therefore the best season to gather Olives, both for goodnesse and abundance of oile, is when they begin to shew blacke. And such halfe-ripe Olives wee in Latine call Drupæ, & the Greekes Drypetæ. To conclude, it skilleth very much whether the berries ripe upon the tree, or mellow within their presse: also whether the tree bee watered, that is to say, the Olives hanging thereupon be drenched and refreshed with sprinckling water, or have no other moisture than their owne, and that which they receive by dewes and raine from heaven.

Chap. II.

❧ *Of Oile.*

Oile-Olive commeth to have a ranke and unpleasant tast if it be old kept and stale, contrarie to the nature of wine, which is the better for age. And the longest time that oile will continue good, is but one yeare. Wherein surely if a man would well consider, hee may observe the great providence of Nature. For seeing that wines are made to serve for intemperance and drunkennesse, there is not that necessitie to drinke much thereof, and to spend them out of hand: and more than so, the daintie tast that they have when they be stale, induceth men to lay them up and keepe them long. But contrariwise, she would not have us make such spare of oile: and therefore by reason of the generall use and need thereof, she hath made it vulgar and common to all.

As touching this benefite and gift of Nature bestowed upon mankind, Italie of all other natious in the world carieth the name for the goodnesse thereof: but principally the territorie or countie of Venafrum, and namely, that quarter lying toward Licinia, which yeeldeth the oile called Licinianum: wherupon there be no Olives comparable to them of Licinia, both for to serve the perfumers, in regard of the pleasant smell which that oile doth give, so appropriat unto their ointments; as also to furnish the kitchin and the table (as they say that be fine-toothed, and have a delicate tast:) which is the cause (I say) that this oile carieth the onely name. And yet these Olives of Licinia have this priviledge besides, that birds love not to come near unto them. Next to these Licinian Olives, the question is betweene them of Istria and Bætica, whether of them should go away with the price for their goodnesse? and hard it is to say, which is the better of the twaine. A third degree there is under those two abovenamed, namely, of the Olives that come from all other provinces, setting aside the fertile soile of that tract in Affricke, which yeeldeth so great increase of corne. For it should seeme that Nature hath set it apart for graine onely, seeing it so fruitfull that way: and hath not so much envied it the benefite of wine and oile, which shee hath denied those parts, as thought it sufficient that they might glory, & have the name for their harvests. As for other points belonging to Olives, men have erred and ben deceived very much: neither is there in any part concerning our life, to be found more confusion, than is therein: as we will shew and declare hereafter.

Chap. III.

❧ *The nature of the Olive berries: also, of young Olive plants.*

This fruit called the Olive, consisteth of a stone or kernill, of oile, a fleshie substance, and the lees or dregs: now by these lees (called in Latine Amurca) I meane the bitter liquor of the grounds that the oile yeeldeth. It commeth of abundance of water: and therefore as in time of drought there is least thereof, so in a rainie and waterie constitution, you shall have store and plentie. As for the proper juice of the Olive, it is their oile: and the cheese is that which commeth of those that are unripe, like as wee have shewed before, when wee treated of Omphacium, or the Olive verjuice. This oilie substance doth increase & augment within the Olive untill the rising of the star Arcturus, to wit, sixteene daies before the Calends of October; after which time, their stones and carnous matter about them doe rather thrive. But marke, when there followeth a glut of raine and wet weather presently upon a drie season, the oile in them doth corrupt & turne all (well neare) into the trees abovesaid, which may easily be perceived by the colour: for it causeth

A ſeth the Olive berrie to looke blacke. And therfore when this blackneſſe beginneth to appeare, it is a ſign that they have ſomewhat (although very little) of the lees: but before that, they had none at all. And herein are men foulely deceived, taking this marke for the beginning of their ripeneſſe: which blacke hew indeed is a ſigne of their corruption, and betokeneth that then they are in the way to be ſtarke naught. They erre alſo in this, that they ſuppoſe an Olive the more growne it is in carnoſitie, to be the fuller of oile: whereas in very truth, all the good juice in them is converted then into the groſſe and corpulent ſubſtance thereof, and thereby alſo the ſtone and kernill come to bee big and maſſie: which is the cauſe, that they had need of watering at that time, moſt of all. Which being done by great paine and labour of man, or happening through raine and plentie of ſhewers; unleſſe there enſue a drie ſeaſon & faire weather to extenuate that groſſe ſubſtance into which the Olive had turned the foreſaid juice and humor, all the oile is conſumed and loſt. For it is heat and nothing els (as *Theophraſtus* ſaith) which engendreth oile: and therfore both about the preſſe at firſt, and alſo in the very garners where Olives be laid after, they uſe to keepe good fires, by that meanes to draw the more oile forth. A third default there is in oile, and that commeth of two much ſparing and niggardiſe: for ſome men there are, who being loth to be at coſt to plucke and gather Olives from the tree, wait ſtill and looke that they ſhould fall of themſelves. And ſuch folke as would ſeeme yet to keepe a meane herein, namely, to take ſome paines and be at a little coſt; beat and pell them downe with perches and poles: whereby they doe offer wrong to the poore trees, yea, and hinder themſelves not a little the yeare following, when they ſhall find how much it is out of their way, thus to breake their boughes and branches.

C Whereupon the law in old time provided well for this inconvenience, by an expreſſe inhibition to all gatherers of Olives, in theſe words, NO MAN SO HARDIE AS TO BREAKE, STRIKE, AND BEAT THE OLIVE TREE. But they that goe moſt warily and gently to worke, ſtand under the tree, and with ſome canes ſhake the boughs and branches therewith, or lightly ſmite them: but in no caſe let drive and lay at them either with full down-right or croſſe-blowes. And yet, as heedfull as they be in ſo doing, this good they get by ſtriking and knapping off the young ſhoots and ſprigs which ſhould beare the next year, that they have the trees carie fruit but once in two years for it. The like happeneth alſo, if a man ſtay till they fall of themſelves: for by ſticking on the tree beyond their due time, they rob the Olives to come after, of all their nutriment wherewith they ſhould be fed, and deteine the place likewiſe where they ſhould come forth and grow. An evident

D proofe hereof is this, That Olives unleſſe they be gathered before the ordinarie and yearely Weſterne winds doe blow, they gather heart againe upon the tree, and will not ſo eaſily fall as before. Men uſe therefore to gather the Pauſian Olives firſt after Autumne, which are fulleſt of carnoſitie, not ſo much by nature as by miſgovernment and diſorder; ſoone after, the round Orchitæ, which have plentie of oile; and then the Olives Radij: and theſe, for as much as they be moſt tender, & ſooneſt overcome with abundance of the lees (which we called before Amurca) are therby forced to fall. Howbeit, ſuch Olives as be thick skinned and hard; tough alſo & admitting no wet and raine (by which means they are the leaſt of all others) will abide on the tree untill March: and namely, the Licinian Olives, the Cominian, Contian, & Sergian, which the Sabins call Roiall: all which change not colour & look black before the foreſaid Weſterne wind bloweth, that is, about

E the ſixt day before the Ides of Februarie; for by that time folke think they begin to ripen. Now for as much as the beſt & moſt approved oile is made of them, it ſeemeth that reaſon alſo being conformable to this defect of theirs, juſtifieth & approveth the ſame in the end. And this is commonly received and held among them, that cold winters breed ſcarſitie and dearth: but full maturitie brings plentie, namely when they have leiſure to ripen upon the tree: howbeit this goodnes is not occaſioned by the time, but by the nature rather of thoſe kind of Olives, which bee long ere they turn into the foreſaid dregs Amurca. Men are likewiſe as much deceived in this, that when Olives be gathered, they keep them upon bourded floores in ſollars and garners, & will not preſſe them before they have ſweat: whereas, in truth, the longer they lie, the leſſe oile they yeeld, & the more dregs of lees. For by this meanes the ordinarie proportion they ſay is, to preſſe out of every Mo-

F dius of Olives, not above ſixe pound of oile. But no man maketh any reckoning of the lees, how much it increaſeth in meaſure day by day, in one and the very ſame kind of Olives, the longer that they be kept ere they be preſſed. In one word, it is a common error ſetled every where, that men do think the abundance of oile is to be eſteemed according to the bignes of the Olives: conſidering that the plentie of oile conſiſteth not in the greatneſſe of the fruit: as may appear by thoſe which

of

of ſome are called Roiall, of others Majorinæ, and Phauliæ, which every man knoweth, are the biggeſt and faireſt Olives to ſee to, and yet otherwiſe have leaſt oile in them of any others. Likewiſe in Ægypt the Olives are moſt fleſhie & full of pulpe, howbeit, leaſt oileous. As for the countrie Decapolis of Syria, the Olives indeed be very ſmall there, & no bigger than Capers: yet commended they are for their carnoſitie. And for that cauſe, the Olives from the parts beyond ſea are preferred before the Italian, for goodneſſe of meat, and as better to be eaten; yet thoſe of Italie yeeld more oile. And even within Italie, the Picene and Sidicine Olives ſurpaſſe the reſt. For in truth, theſe are firſt confected and ſeaſoned with ſalt: or els (as all others) prepared and condite either with lees of oile, or wine-cuit. Some Olives there bee, which they ſuffer to ſwim alone as they be, in their own oile, without any helpe and addition of other things, and ſuch be called Colymbades. And the ſame they uſe otherwhiles to bruiſe and cleanſe from their ſtones, and then confect them with greene hearbs, which have ſome pleaſant & commendable taſt. Others there are, which being otherwiſe very greene and unripe, are preſently brought to maturitie, and made mellow, by lying infuſed and ſoking in hote ſcalding water. And a wonder it is to ſee, how Olives will drinke in a ſweet liquor, and how by that meanes they may be made toothſome, yea, and to carie the taſt of any thing that a man would have them. Among Olives there be alſo that are of colour purple, like to thoſe grapes which change colour when they begin to ripen. Moreover, beſides the abovenamed ſorts of Olives, there be ſome named Superbæ [/. prowd.] Alſo there are Olives to be found, which being dried by themſelves onely, are paſſing ſweet, yea, and more delicate than raiſins: marie theſe are very geaſon, and yet ſuch are in Affricke and about the citie Emerita in Portugall.

As touching the very oile it ſelfe, the way to preſerve it from being overfat and thicke, is with ſalt. If the barke of an Olive tree be ſlit and cut, it will receive the reliſh and ſmell of any medicinable ſpice, and the oile thereof will ſeeme aromatized: otherwiſe pleaſant in taſt it is not, like as wine is: neither is there ſuch difference in ſo many kinds of Olives as there is in wine: for ſurely we cannot at the moſt obſerve above three degrees in the goodneſſe of oiles, namely, according to the firſt, ſecond, and third running out of the preſſe. Finally, the thinner that oile is, and the more ſubtile, the finer and daintier is the ſmell thereof: and yet the ſame ſent, in the very beſt of them all, continueth but a ſmall time.

Chap. iiii.

The nature of oile Olive.

THe propertie of Oile, is to warme the bodie, and to defend it againſt the injuries of cold: and yet a ſoveraigne thing it is to coole and mitigate the hote diſtemperature of the head. The Greekes, whom we may count the very fathers and foſters of all vices, have perverted the true and right uſe thereof, to ſerve for all exceſſe and ſuperfluitie; even as farre as to the common annointing of their wraſtlers with it, in their publicke place of exerciſe. Knowne it is for certaine, that the governours and wardens of thoſe places, have ſold the oile that hath been ſcraped from the bodies of the ſaid wraſtlers for 80 Seſterces at a time.

But the ſtately majeſtie of Rome contrariwiſe hath done ſo great honour to the Olive tree, that every yeare in Iulie, when the Ides come, they were wont to crowne their men of armes and gentlemen marching by their troups and ſquadrons in ſolemne wiſe, with chaplets of Olive; yea and the manner was of captaines likewiſe to enter ovant in petie triumphs into Rome, adorned with Olive coronets. The Athenians alſo honoured their conquerors with Olive guirlands. But generally the Greekes did ſet out their victors at the games of Olympia, with braunches of the wild-Olive.

Chap. v.

The manner how to order Olives.

NOw will I report the precepts and rules ſet downe by *Cato*, as touching Olives. His opinion is, that the greater long Olive Radius of Salentum, the big Orchites, the Pauſia, the Sergiana, Cominiana, and the Albicera, ſhould be planted in hote and fat grounds. Hee addeth moreover (as he was a man of ſingular dexteritie and prudent ſpirit) which of them in the neigh-

A neighbour territories and places adjoyning, were taken for the best. As for the Licinian Olives, he saith, They would be planted in a weelie and cold hungrie ground: for if it be a fat soile and a hot, the oile will be corrupt and naught, and the very tree it selfe will in short time be killed with overmuch fertilitie and bearing too great a burden. Moreover, they will put forth a red kind of mosse, which eateth and consumeth the tree. To conclude, his mind is, that Olive hort-yards should be exposed to the sunne, yet so, as they regard the West wind also in any case, for otherwise he commendeth them not.

Chap. VI.

How to keepe Olives, and the way to make oile of them.

B

Cato alloweth of no other means to keep and preserve Olives (and specially the great ones made like cullions, named thereupon Orchita, and the Pausiæ) but either in brine and pickle when they are greene, or else among Lentiske braunches when they are bruised and broken. The best oile is made (saith he) of the greenest and sowrest Olives. Moreover, so soon as ever they be falne, they must be gathered from off the ground; and if they be fouled and berayed with the earth, they ought to be washed clean, and then laid to dry three daies at the most. Now if it fall out to be weather disposed unto frost, they should be pressed at foure daies end. He giveth order also, to bestrew and sprinkle them with salt: saying moreover, That if they be kept in boarded sollars or garners, the oile will be both lesse in quantitie, & worse withall. So it will be also, if it C be let lie long in the lees, or togither with the cake and grounds, when they be brused & beaten: for this is the very fleshie and grosse substance of the Olives, which cannot chuse but breed filthy dregs. And therfore he ordaineth, that oftentimes in a day it should be poured out of one vessell into another, and so by setling clarified from the grounds; and then to put it up afterwards into pans and panchions of earth, or els into vessels or kimnels of lead, for brasse mettall will marre oile. All this should be done within close presses and rowmes, and those kept shut, where no aire or wind may come in, that they might be as warme and hot as stouves. He forbiddeth also to cut any wood or fuell there, to maintain fire; for that the fire made of their stones & kernels, is most kindly of any other. To the end also that the grounds and lees should be liquified and turne into oile, even to the very last drop, the oile should be let run out of those vessels or kimnels aforesaid D into a vat or cistern: for which purpose the vessels are often to be cleansed, and the osier paniers to be scoured with a spunge, that the oile might stand most pure and cleare. But afterward came up the devise to wash Olives first in hot water, and then immediatly to put them whole as they are, into the presse; for by that means they squize forth lees and all: and then anon to bruse and crush them in a mill, & so presse them in the end. Moreover, it is not thought good to presse the second time above 100 Modij, which is the full proportion of one pressure, & it is called Factus. That which after the mill commeth first, is named The floure of the oile, or the Mere-gout. Last of all, to presse 300 Modij, is thought to be foure mens worke ordinarily in one night and a day.

Chap. VII.

E

Of Oile artificiall.

IN *Cato* his time there was no artificiall Oiles, I meane, no other but that of the Olive; and therefore I suppose it was, that he made no mention thereof: but now adaies there bee many kinds. First will we treat of those that are made of trees, and principally before all the rest, of the oile of the wild Olive: Thin it is, and much more bitter than that of the other gentle & true Olive, but good for medicines only.

Very like to it, is that which is made of Chamelæa, an herb or shrub growing in stonie places, to the heigth of a span and no more, with leaves and berries resembling those of the wild Olive.

The next is that which commeth of Cici, or Ricinus, [*i.* Palma Christi] a plant which grow- F eth plentifully in Ægypt, which some call Croto, others Trixis or wild Sesame; but long it hath not been there. In Spaine likewise this Ricinus is found of late to rise sodainly to the heigth of an Olive tree, bearing the stalke of Ferula or Fenell-geant, clad with leaves of the vine, and replenished with seed resembling the graines or kernels of small and slender grapes, and of a pale colour withall: wee in Latine call it Ricinus, of the resemblance that the seed hath to a ticke,

which is a vermin that annoieth ſheepe. For to gather an oile thereof, the manner is to ſeeth the G
ſeeds in water; the oile will ſwim aloft, and ſo it is ſcummed off. But in Ægypt (where there is abundance thereof) they never uſe any fire or water about it; only they corne it well with ſalt, and then preſſe out the oile, which is very fulſome and naught to be eaten, good only for lamps.

The oile of Almonds, which ſome call Metopium, is made of the bitter Almonds dried, ſtamped, and reduced into a maſſe or lumpe, which being ſprinkled and ſoked with water, and then beaten againe in a mortar, is put into a preſſe or mill, and the oile drawne thereout.

There is an oile made alſo of the Bay, togither with the oile of ripe olives readie to drop from the tree. Some take the Bay berries onely, & thereout preſſe oile de-Bayes: others uſe the leaves and nothing els: and there be againe, who with the leaves take alſo the rind of the Bay berries; yea and put thereto Storax Calamita, and other ſweet odors. Now for this purpoſe, the Lawrell H
with broad leaves, growing wild, and bearing blacke berries, is the beſt.

Like unto this oile, is that which they make of the blacke Myrtle; and the broad leafed kind thereof is the better: the berries of it ought to lie infuſed firſt in hot water, and afterwards to be boiled. Some ſeeth the tendereſt leaves that it hath in Oile-olive, and then preſſe them forth. Others put the leaves firſt in the oile, and then let them ſtand confected in the ſunne, and there take their ripening.

After the ſame manner is the oile made of the garden Myrtle; but that of the wild which hath the ſmaller ſeed is the better: and this Myrtle ſome call Oxymyrſine, others Chamæ-
* Indiviſible, or, ſo ſmal that it cannot be cut. myrſine; and ſome againe name it for the ſmalneſſe, * Acaron, for ſhort it is and full of little braunches. I

Moreover, there be oiles made of the Citron and Cypreſſe trees: likewiſe of wallnuts which they call Caryinon: alſo of the fruit of the Cedar, named Cedrelæon.

Semblably of the graine called Gnidium, to wit, the ſeed of Chamelæa and Thymelæa, well cleanſed and ſtamped. In like manner of the Lentiske. As for the oile Cyprinum, how it ſhould be made of the Ægyptian nut and of Ben for to ſerve perfumers, hath been ſhewed before. The Indians (by report) doe make of Cheſtnuts, of Seſame ſeed, & Rice. The people Ichthyophagi as they live by eating fiſh only, ſo they make oile of fiſhes. And in caſe of neceſſitie, otherwhiles men uſe to draw an oile out of the berries of a Plane tree alſo, beeing ſteeped in water and ſalt, which ſerveth for lamp oile. Yea and there is an oile made of the wild vine Oenanthe, as we have ſaid alreadie in the treatiſe of Ointments. K

As touching the oile which the Greekes call Gleucinum, it is made with new wine and oile-olive, boiled at a ſoft fire. Others there be that let the wine conſume all into oile, and without any fire at all, doe compaſſe the veſſell wherein this compoſition is made, with the cake and the refuſe of grapes when they be preſſed, and cover it all over for the ſpace of 22 dayes, ſo as twice a day they be all mixed throughly togither. Some there be who put thereto not only Majoram, but alſo the moſt precious and exquiſite odours that they can meet withall: and our common fencing-halls and places of publicke exerciſes be perfumed with theſe ſweet oiles, and doe ſmell of them; but ſuch they be as are the cheapeſt of all other.

Over and beſides, there is made an oile of Aſpalathus, ſweet Calamus, Baulme, Iris or flour-de-lis, Cardumome or graines of Paradiſe, Melilot, French Nard, Panace, Marjoram, Elecampane, and the root of Cinamon, taking all theſe and letting them lie infuſed in oile, and ſo preſſing out the juice thereof. So is oile Roſat made of Roſes: the oile of Squinanth of the ſweet ruſh, which is moſt like to the oile Roſat. Likewiſe of Henbane, Lupines, and the Daffadill. The Ægyptians get great ſtore of oile out of Radiſh ſeed, or the graſſe called Gramen (which is Dent-de-chien or Quich-graſſe) and this oile they call Chortinon. After the ſame manner the Seſame-ſeed doth yeeld an oile; as alſo the Nettle, which in Greeke they call Cnecinon, or rather Cnidinum. As for the oile of Lilies, it is made in ſome places, where they feare not to let it ſtand abroad in the aire infuſed to take both ſunne and moon-ſhine, yea and froſtie weather. L

They that inhabit between Cappadocia and Galatia, do compound a certaine oile of hearbs growing among them, which is a ſoveraigne remedie for ſinewes either wounded or otherwiſe M
grieved, and they call it Selgiticum: it is much in effect like to that oile which is made in Italie of Gums, by the people Eguini.

Now for the oile of Pitch, which they call Picinum, it is made of the vapours and ſmoke that ariſe from Pitch whiles it boileth, and received in fleeces of wooll ſpread over the pots mouth wherein

A wherein the ſaid Pitch is ſodden: which fleeces are afterwards well wrung, and the oile is preſſed out therof. The beſt oile is that which commeth from the Brutian or Calabrian Pitch: the ſame is moſt fat of all others, and fulleſt of Roſin. The colour of the oile is reddiſh.

Vpon the coaſts and maritime parts of Syria, there is an oile engendreth of it ſelfe, which the Greekes call Elæomeli: a fattie and greaſie ſubſtance it is, thicker than honey, and thinner than Roſin, of a ſweet taſt, iſſuing out of trees; and is onely medicinable and good in Phyſicke.

As touching old oile, it ſerveth in right good ſtead for ſundrie ſorts of maladies. It is thought alſo very ſingular for to preſerve Ivorie from putrefaction: for this is certein, that the image of *Saturne* at Rome is full of oile-olive all within.

B

Chap. viii.

Of the lees or dregs of Oile-olive, called Amurca.

Cato hath highly commended above all, the lees of Oile-olive: for he would have the barrels, hogſheads, and other veſſels which hold oile, to bee therewith beſmeared, that they ſhould not drink up the oile. He deviſed alſo, that the threſhing floors ſhould be wrought and tempered with oile lees, that they might not chawn and gape, nor no Ants breed within the chinkes and cranies thereof. Moreover, he thinketh it very good that the mortar, plaſtre, and parget uſed about the walls of corne-barnes, as alſo their floores, ſhould be well ſprinckled and tempered with the ſaid lees: yea and the preſſes and wardrobes where apparell is kept, ought to
C be rubbed therewith to keepe out mothes, wormes, ſpiders, and ſuch vermine that doe hurt to clothes. He affirmeth beſides, that it is good againſt certaine diſeaſes of foure-footed beaſts, as alſo to preſerve trees, yea and excellent for inward ulcers of a mans bodie, but eſpecially thoſe of the mouth. Being ſodden, it is ſingular good (as he ſaith) for to annoint and make gentle and ſupple all bridle reines, leather thongs, ſhoes, and axeltrees of carts and wagons: likewiſe to keepe all veſſels of braſſe from ruſt, and alſo to give them a bright and pleaſant colour: moreover, all the wooden implements of an houſe generally throughout, and veſſels made of earth and clay, wherein one would keepe drie figges in their verdure, would bee annointed therewith: or if one were deſirous to preſerve the Myrtle, leaves, fruit, and all, upon the braunches, or any ſuch thing, there is nothing better than the ſaid Amurca. Laſt of all, he ſaith, that what wood ſo-
D ever for fewell is dipped in theſe lees, it will burne cleare without any ſmoke.

M. Varro affirmeth, that if a Goat chaunce to licke with his tongue, or to brouſe an Olive when it buddeth the firſt ſpring, the ſame tree will ſurely be barrain and lie in great daunger to miſcarrie and die. Thus much of the Olive tree, and of the oile of Olives.

Chap. ix.

All kinds of Fruit good to eat, and their nature.

AS for all other fruits of trees, they are hardly to be numbred and reckoned by their forme
E and figure; much leſſe by their ſundrie taſts and divers juices that they yeeld, ſo intermingled they are togither by varietie of graffing one into another.

Chap. x.

Of Pine-nuts or Pine-apples, foure ſorts.

THe Pine nuts (which are the biggeſt of that kind and hanging higheſt upon the tree) doe contain and nouriſh ſlender kernels encloſed within certain hollow beds full of holes, and beſides clothed and clad with another coat or huske of a dark murrey colour: wherein may be ſeene the wonderfull care and providence of Nature, to beſtow the ſeeds ſo ſoft. A ſecond kind there be of theſe nuts called Terentines, having a ſhell or huske very brittle and eaſie to be
F cruſhed betweene ones fingers; and as ſoone are they pecked through with birds bills, who after that manner filch and ſteale them from off the tree. A third ſort yet there is of them, which come of the gentle Pitch trees, having their kernels couched within a thin huske or skin more like than a ſhell, and the ſame ſo ſoft, that it may bee chewed and eaten togither with the kernell. Now there is a fourth fruit growing of the wild Pine, and called thoſe Nuts are of the Grecians, Pity-

dia; and theſe be ſingular good againſt the cough. The Taurines in Calabria, have a device to G
confect Pine-nut kernels, by ſeething them in honey; and being thus condite, they call them A-
quiceli. To conclude, at the ſolemne and feſtivall games holden at Iſthmus, they who win the
beſt prize, are woont to be crowned with a chaplet of the Pine.

Chap. xi.

Of the Quince.

NExt to Pine apples, for big and large, are the Quinces, which we call Cotonea, the Greeks
Cydonea, becauſe they were firſt brought out of Candie. So heavie and maſſie they be,
that they bend the boughs to the ground as they hang upon the tree, and will not ſuffer H
their mother to grow.

Many kinds there be of Quinces, to wit, Chryſomela, of a colour inclining to gold, & divided
by certain cut lines. Secondly, there be the Quinces of our owne country, and ſo called: theſe be
whiter, & of an excellent ſmell. They alſo that come out of the realm of Naples, be highly eſteе-
med. Now there be a ſmaller ſort of the ſame kind called Struthea [*i.* the Peare-quince] & thoſe
doe caſt a more odoriferous ſmell: late they be ere they come to ripeneſſe or perfection; where-
as contrariwiſe the greene Quinces called Muſtea, be as haſtie and ſoone melow. Now if a man
doe graffe the great Quinces upon the Struthea, the tree will bring foorth a kind of Quinces by
themſelves called Mulviana; and theſe are the Quinces alone of all other that may be eaten raw.
In ſumme, all the ſort of theſe are come now adaies to be entertained within the waiting or pre- I
ſence chambers of our great perſonages, where men give attendance to ſalute them as they
come forth every morning; and in bed-chambers alſo they are to garniſh the images ſtanding
about the beds head and ſides.

There are beſides ſmall wild Quinces, next to the Peare-quince Struthea, for pleaſant and
odoriferous ſmell; and they grow commonly in hedge-rowes.

Moreover, as well Peaches as Pomegranats, notwithſtanding they be of a divers kind, yet we
call Mala [*i.* Apples.] As for the Pomegranats, we have ſpoken of nine ſorts of them in our trea-
tiſe of their trees, and others in Affricke: and theſe are full of certaine graines or kernels lying
encloſed under their rind; whereas Peaches have in ſtead thereof, a groſſe ſtone or woodie ſub-
ſtance within the carnous pulpe of the fruit. To conclude, there be certaine Peares weighing a K
pound, in regard of which poiſe and bigneſſe that they beare, called they are Libralia.

Chap. xii.

Of the Peach, and foure kinds thereof.

OF all Peaches, the principall be thoſe which are named Duracina, for the ſolide ſubſtance
of the meat within them. As for the French and Aſiaticke Peaches, they beare the name
of the regions and nations from whence they come. This fruit ordinarily waxeth ripe af-
ter the fall of the leafe, or Autumne: but the Abricocts are readie to be eaten in Summer. Theſe
have not been knowne full thirtie yeares, and at their firſt comming up, were ſold for Romane L
deniers apeece: whereof there be two ſorts; Supernatia, which we have from the high countries,
and namely the Sabines; and Popularia, which grow common every where. Theſe fruits bee
harmleſſe, and much deſired of ſicke folke: and for that they are in ſuch requeſt, there would be
given otherwhiles thirtie Seſterces for one of them; which is a price as high as of any other fruit
whatſoever: whereat we may marvell the rather, for that there is not any ſooner gone, and laſteth
leſſe while than they: for being once gathered from the tree, they will not be kept above two
daies at the moſt, and therefore muſt of neceſſitie be ſold and ſpent out of hand.

Chap. xiii.

Of the Plum-tree, eleven kinds of them. M

TO come now to Plums, there is a world of them: ſome of ſundrie colours, others blacke,
and ſome againe white. There be that are called Hordearia, becauſe they be ripe in barley-
harveſt: and ſome there be of the ſame colour, yet later ere they ripen, and bigger beſides;

and

A and for that they be of small reckoning, named they are Asinina [*i.* *Asse-plums.] Ye shall have of them that be black, howbeit the yellow wheat-plum like virgin wax, and the purple, are better esteemed. Moreover, there are a kind of Abricots come from a forraine nation, and they be called thereupon Armeniaca, which alone for their smell also, are commendable. But there is a peculiar braverie and a shameleſſe, which those Plums have by themselves that are graffed in Nut-tree stocks; they retaine the face and forme still of the mother graffe, but they get the tast of the stocke wherein they are set, as it were by way of adoption: of them both they carrie the name, and are called Nut-plums. Now, as well these, as Peaches, yellow wheat-plums, and the wild Bullaise, may be kept and preserved as grapes in Autumne, within certaine barrels or earthen vessels, and so they will continue good till new come. As for all other Plums, as they be soon ripe, B so they are as soone gone. * As our herſ-plums.

It is not long since, that in the realme of Granado and Andalusia, they began to graffe plums upon apple-tree stocks, and those brought forth Plums named Apple-plums: as also others called Almond-plums, graffed upon Almond stocks; these have within their stone a kernell like an Almond: and verily there is not a fruit againe wherein is seene a wittier devise to conjoyne and represent in one and the same subject, two divers sorts.

As for Damascene-plums (taking name of Damasco in Syria) wee have sufficiently spoken thereof in our treatise of straunge trees: and yet long since they have been knowne to grow in Italy: which although they have a large stone and little carnositie about them, yet they never wither into wrinkles and rivels when they be drie, for that they want the full strength of the kind C sunne which they had in Syria.

We should do well to write togither with them, of the fruit Sebesten, which also come from the same Syria, albeit now of late they begin to grow at Rome, beeing graffed upon Sorvices. As touching Peaches in generall, the very name in Latine, whereby they are called Persica, doth evidently shew that they were brought out of Persis first; and that it is a fruit not ordinarie either in Greece or Natolia, but a meere straunger there. Contrariwise wild plums (as it is well known) grow every where. I marvell therefore so much the more, that *Cato* made no mention thereof, considering that of purpose he shewed the manner, how to preserve and keepe divers wild fruits, untill new came: for long it was first ere Peach trees came into these parts, and much adoe there was before they could be brought for to prosper with us, seeing that in the Iland Rhodes (which D was their place of habitation next to Ægypt) they beare not at all, but are altogither barraine. And whereas it is said, That Peaches be venimous in Persia, and do cause great torments in them who doe eat therof; as also that the KK. of Persia in old time caused them to be transported over into Ægypt by way of revenge to plague that country; and notwithstanding their poisonous nature, yet through the goodnes of that soile they became good and holesome: all this is nothing but a meere fable and a lowd lie. True it is indeed, that the best writers who have been painfull above others to search out the truth, have reported so much concerning the tree Persea; which is far different from the Peach tree Persica, & beareth fruit like unto Sebesten, of colour red, and willingly would not grow in any countrey without the East parts. And yet the wiser and more learned Clarkes do hold, That it was not the tree Persea which was brought out of Persis into Æ-E gypt, for to annoy and plague the countrey, but that it was planted first by king *Perseus* at Memphis. Whereupon it came, that *Alexander* the Great ordained, That all victors who had woon the prize at any game there, should be crowned with a chaplet of that tree, to honour the memoriall of his great grandsires father. But how ever it be, certain it is that this tree continueth green all the yeare long, and beareth evermore fruit one under another, new and old togither. And to returne againe to our Plum-trees, evident it is that in *Catoes* time they were not knowne in Italie, but all the Plum-trees which we now have, are come since he died.

Chap. xiiii.

Of nine and twentie kinds of Fruits, contained under the names of Apples.

F

OF Apples (that is to say, of fruits that have tender skins to be pared off) there be many sorts. For as touching Pome-citrons, together with their tree, we have alreadie written. The Greekes call them Medica, according to the name of the countrey from whence they first came in old time. As for Injubes, as also the fruit Tuberes, they be likewise straungers as

well as the reſt: and long it is not ſince they arrived firſt in Italie; the one ſort out of Affricke, G
the other (namely Injubes) out of Syria. And *Sextus Papinius* (whome my ſelfe in my time ſaw
Conſull of Rome) was the firſt man that brought them both into theſe parts; namely, in the
latter end of *Auguſtus Cæſar* the Emperour, and planted them about the rampiers of his camp
for to beautifie the ſame: howbeit (to ſay a truth) their fruit reſembled rather berries than apples;
yet they make a goodly ſhew upon the rampiers: and no marveile, ſince that now adaies whole
groves of trees begin to over-top and ſurmount the houſes of privat perſons.

Concerning the fruit Tuberes, there be two ſorts thereof, to wit, the white, and the reddiſh,
called alſo Sericum, of the colour of ſilke.

The apples named Lanata, are held in manner for ſtrangers in Italie, and are known to grow
but in one place thereof, and namely within the territorie of Verona. Covered they be all over H
with a kind of down or fine cotton, which albeit both Quince and Peach be clad and overgrown
with in great plentie, yet theſe alone carie the name thereof: for otherwiſe no ſpeciall propertie
are they knowne by, to commend them.

A number of apples there are beſides that have immortalized their firſt founders and inven-
tors, who brought them into name, & cauſed them to be known abroad in the world; as if therin
they had performed ſome worthy deed beneficiall unto all mankind. In which regard, why ſhould
I thinke much to rehearſe and reckon them up particularly by name? for if I be not much decei-
ved, thereby will appeare the ſingular wit that ſome men emploied in graffing trees; and how
there is not ſo ſmall a matter, ſo it be well & cunningly done, but it is able to get honor to the firſt
author, yea and to eternize his name for ever. From hence it commeth, that our beſt apples take I
their denominations, of *Matius*, *Ceſtius*, *Manlius*, and *Claudius*. As for the Quince-apples (which
come of a Quince graffed upon an apple ſtocke) they are called Appiana, of one *Appius* who was
of the *Claudian* houſe, and firſt deviſed and practiſed that feat. Theſe apples carrie the ſmell with
them of Quinces: they beare in quantitie the bigneſſe of the Claudian apples, and are of colour
red. Now leaſt any man ſhould thinke, that this fruit came into credit by reaſon onely of partiall
favour, for that the firſt inventor was a man deſcended from ſo auncient and noble a familie, let
him but thinke of the apples Sceptiana, which are in as great requeſt as they, for their paſſing
roundneſſe; and they beare the name of one *Sceptius* their firſt inventor, who was no better than
the ſonne of a ſlave lately enfranchiſed. *Cato* maketh mention of apples called Quiriana, as alſo
of Scantiana, which he ſaith the manner is to put up in veſſels, and ſo to keepe them. But of all K
others, the laſt that were adopted and tooke name of their patrons and inventors, be Petiſia: litle
though they be, yet are they paſſing ſweet and pleaſant to be eaten.

Others apples there are that have ennobled the countries from whence they came, and caried
their names, to wit, Camerina and Græcula. All the reſt tooke name, either upon ſome occaſion
or propertie that they have: to wit, of brotherhood, as the twin-apples Gemella, which hang
one to another by couples, and never are found ſingle, but alwaies grow double: of their colour,
as the Serica, which for their freſh hew be ſo called: of kinred and affinitie, as the Melapia, for
their reſemblance and participation of apples and Peares togither; as a man would ſay, Peare-
apples, or Pom-poires: of their haſtie ripeneſſe, as the Muſtea, [*i.* haſtie-apples;] which now
of their ſweet taſt of hony, are called Melimela, [*i.* hony-apples:] alſo of their exquiſite round- L
neſſe like a ball, as the Orbiculata, [*i.* the round-apples.] That theſe apples came firſt from their
native countrey Epirus, appeareth by the Greeks who call them Epirotica. Againe, ſome there
be that take their denomination of their forme, reſembling womens paps or breaſts, as namely,
Orthomaſtica, [*i.* the Breſt-apples.] Others, for that their condition is to have no pepins or
ſeed within them, be called of the Belgians, Spadoma, as one would ſay, Guelded-apples. As
for the Melofolia, [*i.* the Leafe-apples] they be ſo called, becauſe they have one leafe and other-
while twaine breaking foorth of their ſide in the very mids. The ragged apples Pannucea take
this name, for that of all others they ſooneſt be riveld. The Puffes named Pulmonea, are hoven
fooliſhly, and ſwell I cannot tell how, with little or nothing in them. Some in colour reſemble
bloud, they are ſo red, becauſe at firſt they were graffed upon a mulberry. But all apples ordinarily M
are red on that ſide that regardeth the ſunne.

As for Wildings and Crabs, litle they be all the ſort of them, in compariſon: their taſt is well
enough liked, and they carie with them a quicke and ſharp ſmell: howbeit this gift they have for
their harſh fourneſſe, that they have many a foule word and ſhrewd curſe given them, and that

they

A they are able to dull the edge of any knife that ſhall cut them. To conclude, the Dacian Apples are of all others in manner leaſt accepted, notwithſtanding they be firſt mellow, and would bee gathered betimes.

Chap. xv.

Of Peares. And of the varietie of graffing.

VPon the ſame cauſe there be Peares alſo reproched with the name of Pride, and are called the Proud-peares: little they are, but quickly ripe, and as ſoone gone. Of all others the Cruſtumine peares be moſt delicat and pleaſant in taſt. Next to them in requeſt are the Falerne peares, ſo called for their great abundance of liquor, as it were wine, whereof they are full. And theſe are named likewiſe the milke-peares: but ſuch of them as are of colour blacke, be called the Syrian peares. As for other peares, they have ſundrie names according to the countries wherein they grow. Howbeit theſe peares following, retaine their name ſtill in all places, and repreſent alwaies the memoriall of thoſe that firſt planted or graffed them, to wit, Decimiana of one *Decimus*, a knowne citizen of Rome: of which is alſo a baſtard kind which they call Pſeudodecimiana. Likewiſe, the Dolobellian peare, of one *Dolabella*: and thoſe are of all other the longeſt tailed. As touching the Pompeian peares, which be alſo called the Pap or Teat-peares, the Licerian, the Severian, and of their race the Tyrannian, they differ one from another in the length of their ſteale. The red Favonian peares be ſomewhat greater than the abovenamed Proud-peares. As for the Laterian and Anitian, which be not gathered nor ripe untill Autumne be paſt, they
C have a pretie tart and ſouriſh taſt, but natheleſſe pleaſant ynough. The Tyberian peares beare the name of *Tiberius* the Emperour, for that of all others he loved that fruit beſt: they might goe for Licerians well ynough, ſo like they be unto them, ſave onely that they grow big, and are more deepely coloured with the Sunne.

Moreover, there be peares which are known by no other name than of the countries where they grow, namely, thoſe of Ameria which are more lateward than any other: the Picentine, Numantine, Alexandrine, Numidian, Grecian, and among them the Tarentine. Alſo the Signine pears, which many call Teſtacea, of the colour of earthen pots which they reſemble; like as others be named Onychinum, for that they repreſent the Onyx ſtone, or a mans naile; as alſo thoſe which be called Purple-peares.

D Furthermore, peares take their name of the odour which they yeeld: thus there be Myrapia, to wit, Aromaticall-peares, Laurell, and Nard-peares. Of the time alſo when they be ripe, as the Barley-peares: of the forme of their neck, as the Bottle peares called Ampullacea: of their thick skin, as the Coriolana. As for the Gourd-peares, they are by nature of a brutiſh and ſavage kind; ſo harſh, ſo foure and eager a liquor they doe yeeld.

Many ſorts of peares there are, whereof we can give no certaine reaſon for their denomination, namely, the Barbarian and Venerian peares, which alſo be called Coloured: likewiſe, the roiall peares, which hang or rather ſticke flat to the tree, ſo ſhort a ſteele they have. The Patritian alſo and Voconian peares, which are both greene and long. Moreover, *Virgil* hath ſpoken of the Volemian peares or wardens, which he had from *Cato*, who alſo nameth the Sementium or the
E haſtie and ſoone ripe peares. So as in this point verily the world is growne alreadie to the higheſt pitch, inſomuch, as there is not a fruit, but men have made triall and many experiments, for even in *Virgils* daies the deviſe of graffing ſtrange fruits, was very rife: conſidering that he ſpeaketh of the Arbute tree graffed upon Nut-trees, the Plane upon Apple trees, and the Elme upon Cherrie ſtockes. In ſuch ſort, as I ſee not how men can deviſe to proceed farther. And certes for this long time, there hath not been a new kind of Apple or other fruit heard of.

And yet as induſtrious as men have been that way, they are not permitted to graffe all manner of trees indifferently one in another, no more than it is lawfull to graffe upon buſhes and thornes: ſeeing that it is not ſo eaſie a matter to appeaſe lightnings: for looke how many ſorts of trees are thus engraffed contrarie to nature, ſo many kinds of lightnings and thunderbolts by re-
F port, are flaſhed and ſhot at once.

Peares naturally are more ſharpe-pointed at one end than Apples. And among them, the Greeke peares, the Gourd and Lawrell peares are laſt of all others ripe: for they hang upon the tree untill Winter, and they mellow with very froſt: like as the Amerine and Scantiane apples.

Furthermore, peares are kept and preſerved as grapes, and after ſo many waies: but none of them

them are put in barrels as plums be. Finally, Peares and Apples both, have the properties of wine: G
and in like sort Physicians be warie how they give them to their patients. Howbeit, when they be sodden in wine and water, they serve in stead of a broth or grewell: and so doe no fruit else but Pome and Peare-Quinces.

Chap. xvi.

The manner how to preserve Apples.

THe generall rules to keepe and preserve Apples, are these. *Imprimis*, That the solars be well planked and boorded in a cold and drie place; provided alwaies, that the windowes to the North doe stand open, especially every faire day. *Item*, to keepe the windows into the South H
shut, against the winds out of that corner: and yet the North winds also where they blow, do cause Apples to shrinke and rivell ilfavouredly. *Item*, That Apples bee gathered after the Æquinox in the Autumne: and neither before the full of the Moone, nor the first houre of the day. Moreover, that all the Apples which fell, be severed from the other by themselves, and laid apart: also that they be bedded upon straw, mats, or chaffe under them: that they be so couched, as that they touch not one another, but have spaces betweene to receive equall aire for to be vented. To conclude, this is well knowne, that the Amerine Apples do last and keepe good long, wheras the honie Apples will abide no time.

Chap. xvii.

I

How to keepe Quinces, Pome-granates, Peares, Sorvises, and Grapes.

FOr the good keeping and preserving of Quinces, there must be no aire let into them where they are enclosed: or els they ought to be confected in sodden honey, or boiled therein.

Pomgranates should be plunged into sea-water boiling, and so hardened therein: and after that they be dried in the Sunne three daies, (so as they be not left abroad in the night to take dew) they would be hanged up in a solar, and when a man list to use them, then they must be well washed in fresh water. *M. Varro* setteth downe the manner to keepe them within great earthen vessels, in sand. And if they be not ripe, he would have the earthen pots bottomes broken off, and so the Pomgranates to be put in, and covered all over with mould: but the mouth thereof must be well stopped for letting any aire in; provided alwaies, that the steele and the braunch whereto K
the fruit groweth, be pitched. For so (quoth he) they will not give over to grow still, yea, & prove bigger than if they had remained upon the tree. As for other Pomgranates [*v.* that are ripe] they may be wrapped and lapped one by one in fig-leaves, such as are not fallen, but plucked from off the tree greene, and then to bee put into twigge paniers of oisiers, or els daubed over with potters clay.

He that would keepe Peares long, must put them in earthen vessels turned with the bottomes upward, well varnished or annealed within, covered also with saw dust or fine shavings, and so enterred. As for the Tarentine Peares, they abide longest on the tree ere they be gathered. The Anitian Peares be well preserved in cuit-wine. L

As for Sorvisses, they are kept also in trenches within the ground, but the cover of the vessell whereinto they are put, ought to be well plastered all over, and so to stand two foot covered with earth: also they may be set in a place exposed open to the Sunne, with the bottome of the vessels upward: yea, and within great barrels they may be hung up with their braunches and all, after the manner of grape-clusters.

Some of our moderne writers handle this argument more deepely than others, and fetch the matter farre off, giving out rules in this manner, saying, That for to have Apples or Grapes *de garde*, that is to say, fit to be preserved, and to last long; the trees that beare the one and the other, ought to be pruned and cut betimes, in the waine of the Moone, in faire weather, and when the winds blow drie. Likewise they affirme, That fruits to be preserved, would be chosen from drie M
grounds: gathered before they be full ripe: and this would be looked unto in any hand, that the Moone at the gathering time, be under the earth, and not appearing in our hemisphære. And more particularly, for Grape bunches they would be gathered with a foot or heele from the old hard wood, and the Grapes that are corrupt and rotten among the rest, be clipped off with a

paire

A paire of ſheeres,or plucked out with pincers: then to be hung up within a great new earthen veſſell well pitched; with the head or lid thereof throughly ſtopped and plaſtered up cloſe, to exclude all aire. After which manner, they ſay Sorviſſes and Peares may be kept, but ſo,as in any caſe the twigs and ſteeles whereby they hang, be well beſmeared with pitch. Moreover, order would be given,that the barrels or veſſels wherein they are kept,be far ynough from water.Some againe there be who keepe Grapes together with their braunch,after the ſame manner in plaſter: but ſo, as both ends of the ſaid braunch ſticke in the head of the ſea-Onion Squilla: and others let Grape-cluſters hang within hogſheads and pipes having wine in them: but ſo, as the Grapes touch not the wine in any caſe. There be alſo that put Apples and ſuch fruits in ſhallow pans or pancheons of earth,and let them ſwim and flote aloft upon the wine within their veſſels: for be-
B ſides that this is a way to preſerve them, the wine alſo (as they thinke) will thereby get a pleaſant and odoriferous taſt.Others yee have beſides,that chuſe rather to preſerve all theſe fruits, as well Apples,Peares,&c.as Grapes,covered in Millet ſeed. Howbeit,the moſt part dig a trench or ditch two foot deep in the ground,they floore it with ſand in the bottome,& lay their fruits therupon; then they ſtop the top with an earthen lid,and afterwards cover all with earth.Some there are which ſmeare their bunches of Grapes all over with potters clay,and when they are dried in the Sunne, hang them up in ſolars for their uſe: and againſt the time that they ſhould occupie them,ſteepe them in the water,and ſo waſh off the foreſaid clay.But for to keepe Apples that are of any worth,they temper the ſame clay with wine,and make a morter thereof,wherein they lap the ſaid Apples.Now if thoſe Apples be of the beſt kind and right ſoveraigne,after the ſame ſort
C they cover them with a cruſt of the like paſt or morter,or elſe clad them within a coat of waxe: and if they were not fully ripe before,they grow by that meanes, and breake their cruſt or cover what ever it be.But this would not be forgotten,that they uſe alwaies to ſet the Apple or fruit upright upon the taile,howſoever they be kept. Some there are who gather Apples and ſuch like fruit with their ſlips & ſprigs, hide them within the pith of an Elder tree,and then cover them in earth,as is before written.And others there are,who for every Peare or Apple,have a ſeverall earthen pot,and after that their lids be well cloſed and ſtopped with pitch,then they encloſe them againe with great veſſels or tuns.Nay,ye ſhall have ſome to lap them with flockes and wooll,and ſo put them in caſes,and them they ſee well luted with morter made of clay and chaffe tempered together. Some order them in the ſame ſort,but they put them in earthen pans:and others make
D no more adoe, but dig an hole in the ground, floore the bottome with a courſe of ſand,put the Apples or fruit within, and then anone when they are thus buried,cover all with mould. There be that uſe Quinces in this wiſe; they take them,annoint them with waxe comming out of Pontus,and ſuffer them afterwards to lie covered in honie.

Columella mine author reporteth,That fruits will keepe well in earthen pots throughly pitched,and afterwards ſet in pits,and drenched in ceſternes of water.In the maritime coaſts of Liguria next to the Alpes, they uſe to take Grapes after they are dried in the Sun, and wrap them within bands of ruſhes and reeds,put them up in little barrels,and ſtop them cloſe with plaſter. The Greekes have the ſame faſhion: but they take for that purpoſe, the leaves of the Plane-tree,of the vine it ſelfe,or elſe the fig-tree,after they be dried one day in the ſhade: and when they
E be in the barrell,betweene every bed of grape cluſters, they couch a courſe of grape kernels, and ſuch refuſe remaining after the preſſe. And in this manner are the grapes of Coos and Berytus preſerved: and for ſweetneſſe and pleaſant taſt,there are no better to be found. And ſome there be, that for to counterfeit theſe excellent Grapes, beſmeare them with lie aſhes ſo ſoone as ever they be pulled from the Vine, and preſently drie them in the Sunne: which done, they enwrap them within leaves,as hath been ſaid before,and ſo couch them cloſe within the cake of preſſed grapes. Nevertheleſſe, there be divers that chuſe rather to keepe Grapes in the ſaw duſt or ſhavings of Firre wood, Poplar, or Aſh. Some are afraid to let Grapes hang neare to Apples, Pomegranates, and ſuch like fruit, and therefore give in charge to let them preſently after they bee gathered,for to bee hung up in garners or bourded lofts: ſuppoſing that the duſt which
F they gather from above,is the beſt cover to defend and preſerve them. The remedie to keepe Weſpes from them,is to ſpurt or ſquirt oile out of a mans mouth upon them. And thus much concerning the way to preſerve Grapes and other fruits aforeſaid. As for Dates, we have ſpoken ſufficiently before,of them.

CHAP.

G

Chap. xviii.

Of Figs, 29 ſorts of them.

OF all other fruits which have tender pils or skins, and are called in Latine, Poma, Figs are the biggeſt: for ſome of them are found to be as great as Peares. As touching the Sycomores of Ægypt and Cypres, and of their admirable fruit, we have written ynough in the treatiſe of forraine Trees. The Idæan Figs that come from the mountaine Ida, are of colour red, of the bigneſſe of Olives, onely rounder they be, & in taſt reſemble Medlars. In the region about Troas neare unto the ſaid hill Ida, they call that fig-tree Alexandrina. It is as thicke as a mans arme about at the cubite or elbow, and full of braunches: the wood thereof is tough and ſtrong, H howbeit, pliable to wind and bend which way a man would have it. Void of milkie ſubſtance it is, clad with a greene barke, bearing leaves like the Tillet or Linden tree, but that they be ſoft. *Oneſicritus* writeth, that the Fig-trees in Hyrcania beare more pleaſant fruit than ours in Italie, without all compariſon: alſo that they carie a greater burden, and be farre more plentifull, inſomuch, as one of them doth ordinarily yeeld 270 Modij of Figs. We have here alſo in Italie many Fig-trees brought out of other forraine countries, to wit, from Chalcis and Chios: whereof there be many ſorts. For both our Lydian Figs which are of a reddiſh purple colour, and alſo the Mamillane or teat-Figs, have a reſemblance of the ſaid Chalcidian and Chian Figs, yea, and the Calliſtruthion Figs beyond others not a little, in goodneſſe of taſt: and theſe of all the reſt are the coldeſt. For as touching the Affricane Figs, which many men prefer before all others, they hold the name of Affricke, as if it were their native countrey: and yet there is a great queſtion thereabout, and I wot not well what to ſay thereof, conſidering that it is not long agoe that Affricke begun firſt to have Fig-trees. For the Alexandrine Figs are of the blacke kind, having a white rift or chamfre, and are ſurnamed Delicate. The Rhodian Fig is likewiſe blacke of hue: and ſo is the Tiburtine, which alſo is of the haſtie kind, and ripe before others. I

Moreover, there be certaine Figges which beare the names of thoſe that brought them firſt into Italie: namely, the Livian and Pompeian, and ſuch are fitteſt to bee dried in the Sunne, and ſo to be kept all the yeare long for a mans uſe: like as the illfavoured, fooliſh, and gaping Figges Mariſcæ: as alſo thoſe that are ſpeckled with ſpots like the leaves of the Laconian reeds.

There are beſides the Herculanean, Albicerate, and Aratian white Figs, which of all other are moſt flat and broadeſt, and withall have the leaſt taile or ſteele whereby they hang. The Porphyrite Figs firſt ſhew upon the tree, and ordinarily are longeſt tailed. The ſmalleſt Figs called the popular Figs, which alſo are of all others the baſeſt and of leaſt account, come next after and beare the Porphyrites companie. Contrariwiſe, the Chelidonian Figges be the laſt: and ripen againſt Winter. K

Moreover, certaine Figs there be which are both early, and alſo lateward: namely, ſuch as bear twice a yeare: and be both blacke and white: for they are ripe firſt in harveſt, and afterwards, in time of vintage. Late alſo it is before the Duracinæ be ripe, ſo called of the hard skin which they have. Alſo ſome there be of the Chalcidian kind which beare thrice a yeare. At Tarentum there grow none but ſuch as are exceeding ſweet, and thoſe they call Omas [or rather Oenadas, taſting L of wine.]

Cato in his treatiſe of Figs writeth thus, The unſavorie Fig dotes, Mariſcæ, would be ſowne in an open, light, and chalkie ground. But the Affricane, Herculane, and the Winter Saguntine Figges, as alſo the Telliane (which are blacke and long tailed) love a fatter ſoile, or elſe well dunged.

After this, Figges have chaunged into ſo many kinds, and altered their names very often: in ſuch ſort, that by this point it is evident, how the world is altered, and to what varietie this life is ſubject. In ſome provinces, as namely in Mœſia, there be winter Figs that hang all Winter long: but they come to be ſuch, more by art and cunning, than naturally of themſelves. For ſo ſoone as Autumne is paſſed, and Winter approcheth, they uſe to cover with dung certaine little Fig- M trees which they have, and together with them the greene yong Figs which they find upon them in Winter: and when they have continued ſo the ſharpe time of dead Winter, ſo ſoone as the weather beginneth to be more warme and temperate, they diſcharge both fruit and tree of their dung: which being thus let out againe (as it were) where they ſeemed buried, and now comming

to

A to light; they no ſooner find the freſh aire, and another kind of nouriſhment differing from that, whereby they lived, but doe embrace and receive the comfort of the new Sunne moſt greedily, as if they were new born and revived: in ſuch ſort, as that in Mœſia, notwithſtanding it be a moſt cold region, ye ſhall have the figs of theſe trees to ripen, when others begin to bloſſome: and by this meanes become early and haſtie figs in another yeare.

Now for as much as we are fallen to mention the figs in Affricke, which were in ſo great requeſt in the time of *Cato*, I am put in mind to ſpeake ſomewhat of that notable opportunitie and occaſion, which by the meanes of that fruit he tooke for to root out the Carthaginians, and raſe their very citie. For as he was a man who hated deadly that citie, & was otherwiſe carefull to provide for the quiet and ſecuritie of his poſteritie, he gave not over at every ſitting of the Senate, to
B importune the Senators of Rome, and to crie out in their eares, That they would reſolve and take order to deſtroy Carthage. And in very truth, one day above the reſt, he brought with him into the Senate houſe an early or haſtie fig which came out of that countrey: and ſhewing it before all the lords of the Senate, I would demaund of you (quoth he) how long agoe it is (as you think) ſince this figge was gathered from the tree? And when none of them could denie but that it was freſh and new gotten. Lo (quoth he) my maiſters all, this I doe you to weet, It is not yet full three daies paſt, ſince this figge was gathered at Carthage: ſee how neare to the wals of our cittie wee have a mortall enemie. Vpon which remonſtrance of his, preſently they concluded to begin the third and laſt Punicke warre, wherein Carthage was utterly ſubverted and overthrowne. Howbeit *Cato* ſurvived not the raſing and ſaccage of Carthage, for he died the yeare immediatly follow-
C ing this reſolution. But what ſhall we ſay of this man? whether was more admirable in this act, his provident care and promptneſſe of ſpirit; or the occaſion preſented by the ſuddaine object of the fig? was the preſent reſolution and forward expedition of the Senate, or the vehement earneſtneſſe of *Cato*, more effectuall to this enterpriſe? Certes, ſomewhat there is above all, and nothing in mine opinion more wonderfull, that ſo great a ſignorie and ſtate as Carthage, which had contended for the Empire of the world for the ſpace of a hundred and twentie years, & that, with the great conquerors the Romanes, ſhould thus be ruined and brought to nought, by occaſion of one fig. A deſſeigne, that neither the fields loſt at Trebia and Thraſymenus, nor the diſgrace received at the battell of Canna, wherein ſo many brave Romanes loſt their lives and left their dead bodies on the ground to be enterred, could never effect: nay not the diſdain that they
D tooke to ſee the Carthaginians encamped and fortified within three miles of Rome, ne yet the bravadoes of *Annibal* in perſon riding before the gate Collina, even to dare them, could ever bring to paſſe. See how *Cato* by the meanes of one poore fig, prevailed to bring and preſent the forces of Rome to the very wals of Carthage.

There is a fig-tree called Navia, honoured with great reverence, in the common Forum and publicke place of juſtice at Rome, even where the ſolemne aſſemblies are held for elections of magiſtrates neare to the Curia, under the old ſhops called Veteres: as if the gods had conſecrated it for that purpoſe: neare (I ſay) it is to the Tribunall named Puteal Libonis, & planted there by *Attius Navius* the Augur, where the ſacred reliques of his miracle, to wit, the Raſour and the Whetſtone, were ſolemnely enterred: as if it came of the owne accord from the ſaid Curia into
E the Comitium, and had not been ſet by *Navius*. This tree if it begin at any time to wither, there is another replanted by the Prieſts, who that way are very carefull & ceremonious. But a greater reſpect there is had of another in remembrance of the firſt fig-tree named Ruminalis (as it were) the nource of *Romulus* & *Remus*, the two young princes fondlings, and founders alſo of the citie of Rome: for that under it was found a ſhee Wolfe giving to thoſe little babes the teat (which in Latine they called Rumen:) and for a memoriall hereof there is a monument of Braſſe erected neare unto it, repreſenting that ſtraunge and wonderfull ſtorie. There grew alſo a third fig-tree before the temple of *Saturne*, which in the yeare 260 after the foundation of the citie of Rome, was taken away: at what time as a chappell was built there by the Veſtall nuns, and an expiatorie ſacrifice offered, for that it overthrew the image of *Sylvanus*. There is a tree of the ſame kind yet
F living, which came to grow of it ſelfe, no man knoweth how, in the middeſt of the Forum Romanum, and in that very place where was the deepe chinke and gaping of the ground, that menaced the ruine of the Romane Empire; which fatall and portentious gulfe, the renowned knight *Curtius* filled up with the beſt things that were to be found in the citie, to wit, his Vertue & Pietie incomparable, teſtified by a moſt brave and glorious death. In the very ſame place likewiſe there is

an

an Olive and a Vine, which came thither by as meere a chaunce, but afterwards well looked and trimmed by the whole people for to enjoy the pleasure of the shade therof. And there also stood an altar, which afterwards was taken away by occasion of the solemne shew of sword-fencers, which *Iulius Cæsar* late Emperour, exhibited to doe the people pleasure, which were the last that plaied their prices and fought at the sharpe in the said Forum. To conclude, wonderfull it is to see, how the fruit of this tree maketh hast to ripe: a man would say that Nature therein sheweth all her skill and force to ripen figs all together at once. G

Chap. xix.

Of the wild Fig-trees: and of caprification.

H

There is a kind of wild fig-trees, which the Latines call Caprificus, that never bringeth any fruit to maturitie: but that which it selfe hath not, it procureth to others, and causeth them to ripen. For such is the interchangeable course & passage of causes in Nature, that as this thing putrifieth, that engendreth; and the corruption of one is the generation of another. By this it comes to passe, that the wild fig-tree breedeth certaine flies or gnats within the fruit thereof: which wanting nourishment, and not having to feed upon in those figs, because they become rotten and putrified as they hang upon the tree, they flie unto the other kind of gentle and tame fig-trees, where they settle upon the figs, and greedily nibble thereupon, untill they have made way, and pierced into them; and by that means let in at first the breath of the warme Sunne, and that comfortable and vegetative aire besides, that helpeth to ripen them. Soone after they sucke I up and spend the milkie humor which they find there, and which keepeth the figs still as it were in their infancie, and hindereth their speedie and timely maturitie. True it is, that the figs in time would ripen of themselves by the power and benefite of Nature onely: howbeit, skilfull and industrious husbandmen take order alwaies to set these wild fig-trees near to the place where other fig-trees grow, but with due regard of the wind side, that when the foresaid gnats breake forth and are readie to flie out, a blast of wind might carie them to the other. And hereupon came the devise and invention to bring whole swarmes and casts of them as they hang one to another, from other places, that they might settle upon the figs to consume the raw moisture within. Now, if the soile be leane and hungrie, and the fig-trees growing thereupon exposed to the North wind, there is no such need of this help: for the figs will drie sufficiently of themselves, by reason as well K of the situation of the place, as the clifts & rifts in them, which will effect that which the gnats or flies abovenamed might performe. The like effect is to be seene also where much dust is, namely, if a fig-tree grow neare unto an high way, much frequented and travelled by passengers. For the nature of dust is to drie and soke up the superfluous moisture of the milke within figges. And therefore when they are thus dried, whether it be by the meanes of dust, or of the said flies feeding, which is called Caprification, they fall not from the tree so easily: by reason they are discharged of that liquid substance, which maketh them both tender and also ponderous, weightie, and brittle withall.

All figges ordinarily are tender and soft in handling. Those which be ripe, have small graines within them: their succulent substance besides, when they begin to ripen, is white like milke: but L when they are perfectly ripe, it is of the colour of honie. They will hang upon the tree untill they be old: and when they are aged, they yeeld a certaine liquor which distilleth from them in manner of a gum, and then in the end become drie.

The better sort of figges have this honour and priviledge, to be kept in boxes and cases for the purpose: and principally those that come from the Ile Ebusus, which of all others are the very best and largest: yea, and next to them those that grow in the Marrucines countrey. But where they are in more plentie, they put them up in great vessels called Orcæ, as namely in Asia: also in barrels and pipes, as at Ruspina, a citie in Barbarie. And in very truth, the people of those countries make that use of them when they be drie, that they serve both for bread and meat. For *Cato* setting downe an order for diet and victuals fit and sufficient for labourers, ordained, that M they should be cut short of their other pittance, when figs are ripe, and make up their full meales with it. And it is not long since the manner came up, to eat fresh new figges with salt and poudered meats, in stead of cheese. And for to be eaten in this sort, the figges called Coctana, (wherof we have written before) and the dried figs Caricæ are commended: as also the Cauneæ,

which

A which when *M. Crassus* should embarke, in that expedition against the Parthians (wherein hee was slaine) presaged ill fortune, and warned him not to go forward: namely, when at the very instant that he was readie to set foot a shipbourd, there was a fellow heard to crie those figs for to be sold, pronouncing alowd, Cauneas, Cauneas; which word in short speaking was all one with *Cave ne eas*, [*i.* Beware of this voiage, and goe it not.] All these sorts of figs, *L. Vitellius* brought out of Syria, unto his ferme or manour that he had neare Alba, having been L. governour or Lieutenant generall in those parts, namely, in the latter end of *Tyberius Cæsar* the Emperour: and the same *Vitellius* was afterward Censor at Rome.

Chap. xx.

B

Of Medlars: three kinds of them.

MEdlars and Services, may well and truly be raunged in the ranke of Apples and Peares. Medlars be of three sorts; namely, Anthedon, and Setania, and the third which they call Gallicum, [*i.* the French medlar] which is of a bastard nature, yet it resembleth the Anthedon, rather than the other. As for the Setanian medlar, the fruit is greater and whiter than the rest; also the kernels or stones within are of a more soft substance, and not altogither so woodie and hard. The rest are smaller than these Setania or common Medlars, but they have a better smell and more odoriferous, and withall will last longer. The tree it selfe that beareth Medlars, is reckoned among the greatest sort: the leaves before they fall, wax red: the roots be many
C in number, and run downe right deepe into the ground; by which means, unneth or very hardly, they be quite rooted up. This tree was not known in Italie by *Catoes* daies.

Chap. xxi.

Of Services, foure kinds.

OF Services there be foure sundry sorts, differing one from the other: for some of them are round like apples; others pointed at one end as Peares; a third kind are fashioned like egs, as some long or tankard apples: and these are apt to be soone soure. For sweet sent and pleasant tast, the round excell all cheis: the rest have a relish of wine. The best kind of
D them are they that have soft and tender leaves about their steles whereby they hang. The fourth sort they call Torminale, allowed onely for the remedie that they affourd to mitigate the torments and wringing of the cholique. This tree is never without fruit, howbeit the smallest of all the rest, and differeth from the other, or it beareth leaves very like to the Plane. There are none of them that beare fruit before they be three yeares old. Lastly, *Cato* would have Services to be preserved and condite in Cuit.

Chap. xxii.

Of the Walnut.

E THe next place to these for bigneſſe, the Walnuts do challenge, which they cannot claime for their credit and authorie; & yet they are in some request among other licentious and wanton Fescennine ceremnies, at weddings: for lesse they be than Pine-nuts, if a man consider the grosseneſſe of the bod outwardly; but in proportion therto they have a much bigger kernell within. Moreover, Nature hath much graced and honoured these nuts with a peculiar gift that she hath endued them with, namely, a double robe wherewith they are clad: the first, is a tender and soft huske; the next, a hard and woodie shell: which is the cause, that at marriages they serve for religious ceremonies, resembling the manifold tunicles and membranes wherein the infant is lapped and enfolded within the wombe: and this reason soundeth more probable, than that they should be scattered, because in their fall they rebound and make a ratling [to
F drowne (forsooth) all ominous noises from the bride-bed or chamber.] That these Nuts also were brought out of Persia first by commaundement of the Kings, is evident by their Greeke names; for the best kind of them, they call Persicon, and Basilicon; as one would say, the Persian and Roiall nut: and the same indeed were the first names. Afterwards, the nut came to be named Caryon, (by all mens confession) for the heavinesse of head which it causeth, by reason of the

ſtrong ſmell. Their outward huske ſerveth to die wooll, and the little nuts when they come new forth, are good to give the haire of the head a reddiſh or yellow colour: the experiment thereof was firſt found, by ſtaining folkes hands as they handled them. The elder that nuts be and longer kept, the more oleous and fatter they are. The onely difference of the ſundrie kinds, conſiſteth in the ſhell, for that of ſome it is tender and brittle, in others hard; in one ſort it is thin, in another thicke: laſtly, ſome have ſmooth and plaine ſhels, others againe be as full of holes and cranies. G

Walnuts be the fruit alone that Nature hath encloſed with a cover parted in twaine, and ſo is joined and ſet togither; for the ſhell is divided and cleft juſt in the mids, and ech halfe reſembleth a little boat. The kernell within is diſtinguiſhed into foure parts, and betweene every one there runneth a membrane or skin of a woodie ſubſtance. As for other nuts, their meat is ſolide and compact, as we may ſee in Filberds and Hazels, which alſo are a kind of nut, and were called heretofore Abellinæ, of their native place, from whence came good ones at firſt. They came out of Pontus into Natolia and Greece, and therefore they bee called Ponticke nuts. Theſe Filberds likewiſe are covered with a ſoft bearded huske, and as well the ſhale as the kernell is round and ſolide, all of one entire peece. Theſe nuts alſo are parched for to be eaten: and within their belly they have in the mids a little chit or ſpurt, as if it were a navill. H

As for Almonds, they are of the nature of nuts, and are reckoned in a third ranke. An upper huske they have like as Walnuts, but it is thin: like as alſo a ſecond coverture of a ſhell. The kernell differeth ſomewhat; for broader it is and flatter, and their skin more hard, more ſharpe, and hoter in taſt than that of other nuts. Now whether the Almond tree were in Italie during the life of *Cato*, there is ſome doubt and queſtion made, becauſe he nameth the Greeke nuts, which ſome doe hold for a kind of Walnut. Mention maketh he beſides of the Hazle nuts or Filberds, as well the * Galbæ, as the Preneſtine, commended by him above all others, which he ſaith, are put up in pots and kept freſh and greene within the earth. Now adaies the Thaſian and Albeuſian nuts be in great account: and two ſorts beſides of the Tarentine; whereof the one hath a tender and brittle ſhell, the other as hard: and thoſe are the biggeſt of all other, and nothing round. He ſpeaketh alſo of the ſoft-ſhaled Filberds Mdluſcæ, the kernels whereof doe ſwell and cauſe their ſhells to cleave in ſunder. I

* or *Calvæ*, *i.* Bald.

But to returne againe to our Walnuts: ſome to honour them, interpret their names Iuglandes, as a man would ſay, the nuts of *Iupiter*. It is not long ſince I heard a knight of Rome (a gentleman of high calling and who had been Conſull) proteſte and ſay, That he had certaine Walnut trees that bare twice a yeare. As for Fiſticks, we have ſpoken alreadie of them. To conclude, theſe kind of nuts the above-named *Vitellius* brought firſt into Italy at the ſame time, namely, a little before the death of *Tyberius* the Emperour: and withall, *Flaccus Pompeius* a knight of Rome, who ſerved in the warres togither with him, carried hem over into Spaine. K

Chap. xxiii.

Of Cheſtnuts, eight kinds.

WEe entitule Cheſtens alſo by the name of Nuts, although indeed they are more aptly to be called a kind of Maſt. This fruit what ever it be, is encloſed within an huske, and the ſame defended and armed all over with a ramier and palaiſade (as it were) of ſharpe pricks like the skin of an Vrchin; whereas the Acorne an other maſt is but halfe covered, and that defence in them, is begun only. And certes, a wonderfull matter it is, that we ſet ſo little ſtore by this fruit, which Nature is ſo carefull to hide and defend. Vnder one of theſe husks ye ſhall find ſometime three Cheſtnuts, and thoſe having certain tough pills or ſhells very pliable. But the skin or filme within, and which is next to the bodie or ſubſtance of the fruit, unleſſe it bee pilled off and taken away, marreth the taſt of it, like as it doth alſo in other nut-kernels. Cheſtnuts, if they be roſted, are better and more pleaſant meat than otherwiſe. They uſe alſo to grind them to meale, and therof is made a kind of bread that poore women for hunger will eat. The firſt Cheſtnuts were knowne to grow about Sardis, and from thence were brought, & therefore the Greekes call them Sardinian nuts: but afterwards they came to be named Διὸς βάλανοι, [*i. Iupiters* nuts] when as men began to graffe them; for thereby they became more excellent: and at this day there be many ſorts of them. The Tarentine be gentle, and not hard of digeſtion, and in forme flat and plaine. That which they call Balanitis, is rounder, it will ſoone be pilled and cleanſed, L M

A cleanſed, and of it ſelfe will leape out of the skin. And of this kind, the Salatian is more neat, flat, and ſmooth: the Tarentine not ſo eaſie to bee handled and dealt withall: the Corellian is more commended than the reſt; as alſo the Meterane, which commeth of it by graffing: the manner whereof wee will ſhew when wee come to treat of graffes. Theſe have a red pilling, in which regard they are preferred before either the three cornered, or the blacke common ones, which be alſo called Coctivæ, [*i.* Cheſtnuts to be boiled.] The beſt Cheſtnuts are they which grow about Tarentum, and Naples in Campaine. All the reſt are good in manner for nothing but to feed ſwine: * ſo cloſe ſticketh the pill or inner skin alſo, as if it were ſoudered to the kernell within, and ſo hard is it to ſeparate the one from the other.

* *Scrupuloſa corticis interioris circa nucleos quoque ſtrumination.*

B

Chap. XXIIII.

Of Carrobes: of fleſhie and pulpous fruits: of Mulberries: of liquid kernels or graines, and of berries.

THe fruit called Carobes or Caracts, may ſeeme to come neare unto the foreſaid Cheſtnuts, (ſo paſſing ſweet they be) but that their cods alſo are good to be eaten. They bee as long as a mans finger, and otherwhiles hooked like a faulcheon, and an inch in bredth. As for maſt, it cannot be reckoned among fruit properly called Poma, and therefore we will ſpeake of them apart, according to their nature.

Now are we to treat of the reſt which are of a carnous ſubſtance: and thoſe are divided into
C fruits that be ſoft and pulpous, and into berries. The carnoſitie in Grapes and Raiſons, in Mulberries, and the fruit of the Arbut tree, differeth one from the other. Again, the fleſhie ſubſtance in Grapes between the skin and the liquid juice, is one, and that in Sebeſten is another. Berries have a carnoſitie by themſelves, as namely Olives. Mulberries yeeld a juice or liquor within the pulpe thereof, reſembling wine. They be ordinarily of three colours: at the beginning, white; ſoone after, red; and when they be ripe, blacke. The Mulberrie tree bloometh with the laſt, but the fruit ripeneth with the firſt. Mulberries when they be full ripe, ſtaine a mans hands with the juice thereof, and make them blacke: but contrariwiſe being unripe, they ſcoure them cleane. There is not a tree againe, wherein the wit of man hath been ſo little inventive, either to deviſe names for them, or to graffe them, or otherwiſe, ſave only to make the fruit fair and great. There
D is a difference which we at Rome doe make, betweene the Mulberries of Oſtia and Tuſculum.

There is a kind of Mulberries growing upon the bramble, but their skin is much harder than the other. Like as the ground-ſtrawberries differ in carnoſitie from the fruit of the Arbut tree, and yet it is held for a kind of Strawberrie, even as the tree it ſelfe is tearmed the Strawberry tree. And there is not a fruit of any other tree, that reſembleth the fruit of an hearb growing by the ground, but it.

The Arbut tree it ſelfe ſpreadeth full of braunches: the fruit is a whole yeare in ripening: by which means a man ſhall find alwaies upon the tree, yong and old fruit togither one under another; & the new evermore thruſteth out the old. Whether it be the male or female that is barren, writers are not agreed. Surely the fruit is of baſe or no reckoning at all: no marveile therfore if
E the Latines gave it the name Vnedo, for that one of them is enough to be eaten at once. And yet the Greeks have two names for it, to wit, Comarum and Memecylon: whereby it appeareth, that there be as many kinds among the Latines alſo, although it be tearmed by another name, Arbutus. K. *Iuba* ſaith, that theſe trees in Arabia grow to the heigth of fiftie cubits.

As touching Graines and liquid Kernels, there is great difference between them: for firſt and foremoſt, among very grapes, there is no ſmall diverſitie in the skin, either for tendernes or thickneſſe: in the inner ſtones or pepins, which in ſome grapes are but ſingle, or one alone; in others double, and thoſe commonly yeeld not ſo much wine as the others doe. Secondly, thoſe of Ivie and Elder differ very much: yea and the graines within a Pomegranat are not like to others in their forme, for they alone be made cornered and angle-wiſe; and ſeverall as they be, they have
F not a particular skin of their owne, but they are altogither clad within one, which is white: and yet they ſtand all wholly of a liquor and pulpous carnoſitie, eſpecially thoſe which have within them but a ſmall ſtone or woodie kernell.

Semblably, there is as much varietie in berries: for Olives differ much from Bay berries: likewiſe thoſe of the Lote tree are divers from them which the Corneil tree beareth. The Myrtle alſo

differeth from the Lentiske in the very berrie. As for the hulver or holly berries, and the hawes of the white-thorne, they are without any juice or liquor: whereas Cherries bee of a middle kind, betweene berries and graines. This fruit is white at the first, as lightly all berries be whatsoever: but afterwards, some wax green, as Olives and Baies; others turn red, as Mulberries, Cherries, and Cornoiles; but in the end they all become blacke, as Mulberries, Cherries, and Olives.

Chap. xxv.

Of Cherries, eight kinds.

BEfore the time that *L. Lucullus* defeated K. *Mithridates*, there were no Cherrie-trees in Italie: but after that victorie (which was about the 680 yeare from the foundation of the city of Rome) he was the man that first brought them out of Pontus, and furnished Italie so well with them, that within six and twentie yeares, other lands had part thereof, even as far as Britaine beyond the ocean. Howbeit (as we have before said) they could never be brought to grow in Ægypt, for all the care and industrie emploied about them. Of Cherries, the reddest sort be called Apronia; the blackest, Actia: the Cæcilian be round withall. The Iulian Cherries have a pleasant taste, but they must bee taken new from the tree and presently eaten; for so tender they be otherwise, that they will not abide the carriage. Of all other, the Duracine Cherries be the soveraign, which in Campaine are called Pliniana. But in Picardie, and those low countries of Belgica, they make most account of the Portugall Cherries: as they do likewise who inhabit upon the river Rhene. They have a hew with them composed of three colours, between red, black, and green, & alwaies looke as if they were in ripening still. It is not yet full five years since the Cherries which they call Laurea, were known: so called they be, because they were graffed upon a Baytree stocke, and thereof they take a kind of bitternesse, but yet not unpleasant to the taste. There be moreover Macedonian Cherries, growing upon a small tree seldom above three cubits high: and yet there be certain dwarfe Cherries not full so tall, called Chamæcerasi, [*i.* ground cherry-shrubs.] The Cherrie-tree is one of the first that yeeldeth fruit unto his master, in token of thankfulnesse & recognisance of his paines all the yeare long. It delighteth to grow in cold places and exposed to the North. The Cherrie will drie in the sunne, and may be kept in barrels like Olives.

Chap. xxvi.

Of the Corneile and Lentiske tree.

THe same care is had in conditing the berries of the Corneil and the Lentiske, as in preserving Olives: so curious are men to content their tooth, as if all things were made to serve the belly. Thus we see, how things of divers rellishes are mingled togither, and one giveth a taste unto another, and causeth it to be pleasant at the tongues end. Nay we entermingle all climats and coasts of heaven and earth to satisfie our appetite: for to one kind of meat wee must have drugs & spices fetcht as far as from India: to another, out of Ægypt, Candie, and Cyrene: and in one word, for every dish wee have a severall land to find us sawce. To conclude, wee are growne to this passe, that wee cease not to sophisticate our viands, even with hurtfull things, so they taste well: yea and to make dishes of very * poisons, because we would devoure and send all downe the throat. But more plainely hereof, in our professed discourse of the nature and vertue of Hearbs.

* Mushroms.

Chap. xxvii.

The diversitie of tasts and savors.

IN the mean time, as touching those things which are common as wel to all fruits, as juices and liquors: first and foremost we find of tasts thirteen severall kinds; to wit, sweet, pleasant, fattie, bitter, harsh and unpleasant, hot and burning at the tongues end, sharpe and biting, tart or astringent, sowre, and salt. Over and besides all these, there be three others of a most strange and wonderfull nature: The first is that, wherein a man may have a smacke of many tasts togither, as in wines: for in them a man shall find an harsh, sharpe, sweet, and pleasant rellish all at once; and yet these all differ from the native verdure of wine. A second sort there is besides, which carieth a straunge and different taste verily from the thing it selfe, and yet it hath besides the proper and peculiar

A culiar taſt of the owne ſubſtance, as the Myrtle: for it carrieth a ſeverall taſt by it ſelfe, proceeding from a certain kind, mild, and gentle nature, which cannot truly be called either ſweet, fattie, or pleaſant, if we would ſpeake preciſely. Laſt of all, water hath no taſt at all of any juice or liquor whatſoever, and yet therein is a flat taſt by it ſelfe, which is called wateriſh, that nothing els beſides hath: for if a man doe taſt in water a relliſh of any ſap or liquor, it is reputed for a bad and naughtie water.

Furthermore, a great and principall matter of all theſe taſts, lyeth in the ſavour and ſmell; which is connaturall unto the taſt, and hath a great affinitie with it: and yet in water, is neither one or other to be perceived: or if any be felt either by tongue or noſe, it is faultie, that is certain. Finally, a wonderfull thing it is to conſider, that the three principall Elements whereof the world
B is made, namely, Water, Aire, and Fire, ſhould have no taſt, no ſavour, nor participation of any ſap and liquor at all.

Chap. xxviii.

The juyce and ſap of Fruits and Trees: their colours and odours: the nature of Apples, and ſuch ſoft Fruits: and the ſingular commendation of all Fruits.

TO begin withall, The Peare, the Mulberrie, and the Myrtle-berrie, have a juice or ſap within them, reſembling wine; * no marveile then, of Grapes, if they have the like. Olives, Bay-
C berries, Walnuts, and Almonds, have a fattie liquor in them. The Grape, the Fig, and the Date, carie a ſweet juice with them. Plums have a wateriſh taſt.

There is no ſmall difference in the colour alſo that the juice of fruits doe beare: Mulberries, Cherries, and Corneils, have a ſanguine and bloudie liquor: ſo have the blacke grapes; but that of the white grapes, is likewiſe white. The juice of Figs toward the head or necke of the fruit, is white like milke; but of another colour in all the bodie beſides. In Apples, it is in manner of a froth or ſome: in Peaches, of no colour; and yet the Duracina of that kind, be full of liquor; but who was ever able to ſay, what colour it was of?

The odour and ſavour likewiſe of fruits, is as ſtraunge and admirable: for the ſmell of Apples is ſharpe and piercing; of Peaches, weake and wateriſh. As for ſweet fruits, they have none at all:
D for verily we ſee, that ſweet wines likewiſe have little or no ſmell, whereas the ſmall and thin are more odoriferous: and all things in like manner of a ſubtill ſubſtance, doe affect the noſthrils more, than the thicke and groſſer doe: for whatſoever is ſweet in ſent, is not by and by pleaſant and delicat in taſt; for ſent & ſmack are not alwaies of like ſort: which is the reaſon that Pomecitrons have a moſt piercing and quicke ſavor, whereas in relliſh they are rough and harſh: and ſo it fareth in ſome ſort with Quinces. As for Figs, they have not any odor. And thus much may ſuffice in generall, for the ſundry kinds and ſorts of fruits which are to be eaten: it remaineth now to ſearch more narrowly into their nature.

To begin then with thoſe that are encloſed within cods or husks: ye ſhall have ſome of theſe cods to be ſweet, and the fruit or ſeed contained within, bitter: and contrariwiſe, many of thoſe
E graines or ſeeds are pleaſant and toothſome enough; but eaten with the huskes, they bee ſtarke naught and loathſome.

As touching berries, there be that have their ſtone or woodie ſubſtance within, and the fleſhy pulpe without, as Olives, and Cherries: and there bee againe, that within the ſaid woodie ſtone have the carnoſitie of the berry, as ſome fruits in Ægypt, whereof wee have alreadie written. As for berries carnous withoutforth, and pulpous fruits called Apples, they be of one nature. Some have their meat within, & their woodie ſubſtance without, as nuts: others, their carnoſitie without, and their ſtone within, as Peaches and Plums. So that in them we may ſay, That the faultie ſuperfluitie is environed with the good fruit, whereas fruit otherwiſe is ordinarily defended by the ſaid imperfection of the ſhell. Walnuts and Filberds are encloſed with a ſhell: Cheſnuts be
F contained under a tough rind, which muſt be pulled off before they be eaten; whereas in Medlars, the carnoſitie and it be eaten togither. Acornes, and all ſorts of maſt, be clad with a cruſt; Grapes with a skin, Pomegranats with a rind and a thin pannicle or skin beſides. Mulberries doe conſiſt of a fleſhie ſubſtance and a liquor. Cherries, of a skin & a liquid juice. Some fruits there be, the ſubſtance whereof will ſoon part from their woodie ſhell without, or ſtone within, as nuts

* *Minimè quod mirentur uvæ.* Others diſtinguiſh thus. *Minimè (quod mireminor) uvis*, to this ſenſe: whereas in grapes (& that may be a wonder) there is none ſuch.

and Dates: others ſticke cloſe and faſt thereto, as Olives and Bay berries. And there be againe G
that participate the nature of both, as Peaches: for in thoſe that be called Duracina, the carnous ſubſtance cleaveth hard to the ſtone, ſo as it cannot be plucked from it; whereas in the reſt, it commeth eaſily away. Now ye ſhall meet with ſome fruits, that neither without in ſhell, nor within-forth in kernell, have any of this woodineſſe, as a kind of Dates [named Spadones.] And there be againe whoſe verie kernell and wood is taken for the fruit it ſelfe, and ſo uſed; as a kind of Almonds, which (as we ſaid) doe grow in Ægypt. Moreover, yee ſhall have a kind of fruits furniſhed with a double ſuperfluitie of excrement to cover them without-forth, as Cheſtnuts, Almonds, and Walnuts. Some fruits have a ſubſtance of a three-fold nature, to wit, a bodie without; then, a ſtone or wood under it; and within the ſame, a kernell or ſeed, as Peaches. Some fruits grow thicke and cluſtred togither upon the tree, as Grapes, and likewiſe Serviſes, H
which claſpe about the braunches and boughes, bearing and weighing them downe as well as grapes. Others for it, hang here and there very thin, as Peaches. And there be againe that lye cloſe, contained (as it were) within a wombe or matrice, as the kernels of the Pomegranats. Some hang by ſmall ſteles or tailes, as Peares: others in bunches, as Grapes and Dates. Ye ſhall have ſome fruit grow by cluſtres, and yet hang by a long taile, as the berries of Ivie and Elder: and others againe cleave faſt to the braunch of the tree, as Bay berries: ſome both waies, as Olives; for there be of them that have long ſteles, and others again ſhort tailed. Some fruits there be alſo, that are formed like cups or mazers, as Pomegranats, Medlars, the Ægyptian Beane or Lote, and that which groweth about the river Euphrates.

As for the ſingularities and commendable parts in fruits, they be of divers ſorts. Dates are I
moſt ſet by for their fleſhie ſubſtance; and yet they of Thebes above in high Ægypt, are eſteemed onely for their outward coat or cruſt that they have. Grapes, and the Dates called Caryotæ, are in great account and eſtimation for their juice and liquor: Peares and Apples be moſt accepted for their callous ſubſtance next unto their skin or paring; but the honey-apples Melimela, are liked for their carnoſitie and fleſhie pulpe within: Mulberries content the taſt with their griſtle or cartilage ſubſtance: and the beſt part of the nut, is the verie graine of the kernell. In Ægypt, ſome fruits are regarded onely for their utmoſt skin, as drie Figs: when Figges bee greene, the ſame is pilled off and caſt aſide like a ſhell; but be they once drie, the ſaid skin is paſſing good. In all kind of Papyr-reeds, Ferula plants, and the white thiſtle Bedegnar, the verie maine ſtemme is the fruit for to be eaten. The ſhoots alſo and tender ſprigs of the Fig-tree, are K
reputed for good meat, and alſo medicinable. To come unto the ſhrubs kind, the fruit of Capres is eaten togither with the ſtalke. As for the Carobe, what is it elſe but a meere woodie ſubſtance that folke doe eat? (and yet the ſeed and graines within them, are not altogither to be deſpiſed for the propertie that they have) although to ſpeake preciſely, it cannot properly bee called either fleſh, wood, or griſtle; neither hath it found any other convenient name to bee tearmed by.

Chap. xxix.

Of the Myrtle, eleven kinds thereof. L

NAture hath ſhewed her wonderfull power and bountie, eſpecially in the juice of the Myrtle, conſidering that of all fruits, it alone doth yeeld two ſorts both of oile and wine: likewiſe the mixture or compoſition called Myrtidanum, as we have ſaid before. Alſo there was another uſe in old time of Myrtle berries: for, before that Pepper was found and uſed as it is, they ſerved in ſtead thereof: from whence tooke name that exquiſite and daintie diſh of meat, which even at this daie is called Myrtatum. And hereof came that excellent ſauce ſo highly commended for the brawne of the wild Bore, when for the moſt part Myrtle berries are put thereto to dip the meat therein, for to give a better taſt to that kind of veniſon.

As for the very tree it ſelfe, the firſt that ever was ſeene within the compaſſe and precincts of Europe (which beginneth at the mountaines Ceraunia) was about Circeij, where ſtood the M
tombe ſomtimes of *Elpenor*; and ſtill it retaineth the Greeke name: whereby we may well judge, that it is a ſtraunger. Howbeit there grew a Myrtle tree in old time, when Rome was firſt founded, even in that plot of ground where the cittie now ſtandeth. For thus goeth the hiſtorie: That upon a time the Romanes and Sabines being raunged in battaile array, and at the point

to

A to fight a field, and to trie the quarell (for the wrong which the Sabines pretended, was done unto them, in regard that the Romanes had raviſhed their daughters being young maidens) were reconciled and made friends: and thereupon laid downe their armes and weapons, and were there purified with the ſacred branches of Myrtle, in that very place wherein now the temple & image of *Venus Cluacina* ſtandeth: which thereupon tooke the name (for that *Cluere* in old Latine, ſignified to purge or cleanſe.) Beſides, that tree otherwiſe doth affourd a kind of ſweet perfume to bee burned. Now was this tree choſen for that purpoſe then to make attonement and to ratifie the mariage betweene the Romanes and the Sabine virgines, becauſe *Venus* is the preſident and mother of carnall copulation, and the patroneſſe withall of the Myrtle tree. I will not confidently avouch, but me thinks I may preſume to ſay, That the Myrtle was of all other trees firſt planted in
B the publicke places of Rome for ſome memorable preſage and fore-tokening of future events and things to come. For whereas the temple of *Quirinus* (that is to ſay, of king *Romulus*) is reputed for one of the moſt antique buildings now extant, there grew even before it for a long time two old and ſacred Myrtle trees: the one named Patritia [*i.* the Myrtle of the Nobilitie:] and the other Plebeia; that is to ſay, the Myrtle of the Comminaltie. The Patritian proſpered and flouriſhed many yeares together, whiles the Plebeian began to fade and wither. And to ſay a truth, ſo long as the Senate was able to maintaine and uphold their authoritie, the Myrtle of the Nobles continued freſh and greene, and ſpread her boughes at large; whereas that other of the Commons ſeemed as it had been blaſted, dried, and halfe dead: but after that the ſtate of the Senate began to quaile and droupe, (which was about the time of the warre with the Marſyans)
C as their tree decaied and waſted, ſo the Plebeians Myrtle held up the head againe: and ſo by little and little, as the majeſtie of the Senatours was taken downe and abated to nothing, ſo their Myrtle waxed poore and barren untill it became drie and ſtarke dead. Moreover, there ſtood an old chappell and an altar conſecrated unto *Venus Myrtea*, whom now at this day they call Murtia.

Cato in his time wrote of three kinds of Myrtle: to wit, the white, the blacke, and the Conjugula (ſo called haply of wedlock or mariage:) and peradventure it may come of the race of thoſe Myrtles belonging to *Venus Cloacina* abovenamed. Howbeit, in theſe daies we diſtinguiſh our Myrtles otherwiſe; for ſome we repute wild and ſavage, others tame and gentle: and theſe both are likewiſe of two ſorts, to wit, either broader or narrower leaved. To the wild kind properly be-
D longeth the prickie Myrtle Oximyrſine. As for the tame and gentle Myrtles, they bee thoſe that are planted in hort-yards and gardens, wherewith gardeners make arbors, knots, and divers deviſes. Whereof be ſundrie kinds. The Tarentine with ſmall leaves; ours of Italie with broader; and the myrtle *Hexaſtica, which is very ful of leaves, and ordinarily each branch hath ſix ranks ther- * not Exotica, *Turneb.*
of. But theſe are altogether out of requeſt: both the other are full of boughes and branches. As touching the abovenamed Conjugula, I ſuppoſe it bee the ſame that our common Myrtle here in Italie. But the moſt odoriferous Myrtle of all others, is that which groweth in Ægypt.

Now concerning the wine of Myrtles, *Cato* hath ſhewed us the manner how to make it: namely, to take the blacke Myrtle berries, to drie them in the ſhade untill they have loſt all their wateriſh humiditie, and ſo to put them in Muſt or new wine, and let them lie there infuſed, or in ſteep.
E For certainely, if the berries be not dried before, they would yeeld an oile from them. Howbeit, afterwards there was a deviſe found out to make a white wine of the white Myrtle in this manner. Take of Myrtles well beaten or ſtamped, the quantitie of two *Sextares, ſteepe the ſame in three * *i.* wine-quarts.
hemires or pints of wine, and then ſtraine and preſſe forth the liquor.

Moreover, the very leaves of the Myrtle tree, being dried and reduced into a kind of meale, are ſingular good for to cure the ulcers in mens bodies: for certaine it is, that this powder doth gently eat away and conſume the ſuperfluous humours that cauſe putrifaction. And beſides, it ſerveth well to coole and repreſſe immoderate ſweats. Over and beſides, the oile alſo of Myrtles (a ſtraunge and wonderfull thing to tell) hath a certaine rellice and taſt of wine: and withall, the fat liquor thereof is endued with a ſpeciall and principall vertue to correct and cla-
F riſie wines; if the bagges and ſtrainers where-through the wine runneth, bee firſt ſoaked and drenched therewith: for the ſaid oleous ſubſtance retaineth and keepeth with it all the lees and dregs, and ſuffereth nothing but the pure and cleare liquour to paſſe through, and more than that, it carrieth with it the commendable odor and principall vertue of the ſaid oile. Furthermore it is ſaid, That if a wayfaring man that hath a great journey for to goe on foot, carrie

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in his hand a ſticke or rod of the Myrtle tree, he ſhall never bee wearie, nor thinke his way long and tedious. Alſo *rings made of Myrtle twigs, without any edged yron toole, keepe downe and cure the ſwelling bunch that riſeth in the groine. What ſhould I ſay more? The Myrtle intermedleth in warre affaires: For *Poſthumius Tubertus*, being Conſull of Rome (who was the firſt that entred in a pettie triumph, ovant into the cittie, becauſe he had eaſily conquered the Sabines, and drawne in manner no bloud of them) rode triumphant in this manner, to wit, crowned with a chaplet of Myrtle, dedicated to *Venus Victroſſe*: and from that time forward the Sabines (even his very enemies) ſet much ſtore by that tree, and held it in great reverence. And ever after, they that went but ovant into the cittie after a victorie, ware this kind of guirland onely, except *M. Craſſus*, who after hee had vanquiſhed the fugitive ſlaves, and defeated *Spartacus*, marched in a coronet of Lawrell. *Maſſurius* writeth, how Generals when they entred triumphant into Rome, riding in their ſtately chariots (which was the greateſt honor of all others) ware upon their heads, chaplets of Myrtle. *L. Piſo* reporteth, That *Papyrius Maſſo* (who firſt triumphed in mount Albanus over the Corſians) uſed ever after to come unto the Games Circenſes, and to behold them, crowned with a guirland of Myrtle. This *Papyrius* was grandfather by the mothers ſide, to the ſecond *Scipio Africanus*. Finally, *M. Valerius*, according to a vow that hee made in his triumphs, uſed to weare coronets as well of Lawrell as Myrtle.

Virg. georg. 2. That *Turnebus* readeth *Virgæ ſpeeth*, i. ſtaves or ſpeares made of their ſtreit boughes. And *Ferentes ſpina*, i. not headed with yron.

Chap. xxx.

Of the Lawrell or Bay tree, thirteene kinds thereof.

LAwrell is appropriate unto triumphs, and beſides groweth moſt pleaſantly before the gates of the Emperors court, and Biſhops pallace; giving attendance there as a dutifull portreſſe or huiſſer, moſt decently. This tree alone both adorneth their ſtately houſes, & alſo keepeth, watch and ward duly at the dores. *Cato* ſetteth downe two kinds of Lawrell, to wit, the Delphicke, and the Cyprian. Hereunto *Pompeius Lenæus* hath joined a third, which he called Muſtacea; becauſe in old time they uſed to lay the leaves thereof under certaine cakes or March-panes (which in thoſe daies they called Muſtacea) as they were in baking: This third kind hath leaves of all others largeſt, flaggie, hanging, and whitiſh withall. As for the Delphick, it carieth leaves of one entire colour, greener than the reſt: the baies or berries thereof likewiſe are biggeſt, and of a reddiſh greene colour. With this Lawrell were they wont to be crowned at Delphos, who woon the priſe at any tournoy or ſolemne games; as alſo the victorious captains who triumphed in Rome. The Cyprian Lawrell hath a ſhort leafe, blacke, criſped, or curled, and about the ſides or edges thereof it turneth up hollow like a gutter or creſt-tile. Howbeit, afterwards there were raunged in the ranke of Lawrels other trees, to wit, the Tinus, which ſome take to be the wild Lawrell, others ſay it is a kind of tree by it ſelfe: indeed, it differeth from other Lawrels in the colour of the fruit; for it beareth blew berries. Then came the roiall Lawrell in place, which began to be called Auguſta or Imperiall. This is a very tall and big tree, with leaves alſo as large in proportion, and the baies or berries that it beareth are nothing ſharpe biting and unpleaſant in taſt. But ſome there be that thinke this roiall Bay, is not a Lawrell, but a ſeverall tree apart, as having longer and broader leaves than the reſt of the ordinarie ſort. And theſe writers ſpeaking of other kinds, call our common Bay tree, Baccalia, and namely that which is ſo fruitfull and beareth ſuch a ſort of Berries: as for the fruitleſſe and barren of that ſort they name Triumphall, which, as they ſay, is uſed in triumphs. Whereat I marvell very much, unleſſe this ordinance and cuſtome began of *Auguſtus Cæſar*, by occaſion of that Lawrell which came to him as ſent from heaven (as I wil ſhew anon more at large;) and of all others it is for height loweſt, in leafe ſhort and frizled, very geaſon and hard to be found. Now there is another kind of Lawrell named Taxa, very fit for greene arbors, and to be wrought into knots. Out of the middeſt of the leafe there groweth foorth another little one, in manner of a skirt, tongue, or lappet of the leafe. Alſo without any ſuch excreſſence, there is that, which they name Spadonia, as one would ſay, the guelded Bay, which careth not how ſhadowie the place be where it groweth: for be it never ſo remote out of the Sunne, or overſhadowed howſoever, yet it ceaſeth not to grow and overſpread the ground where it ſtandeth. Moreover in this rank is to be reckoned the wild ſhrub called Lowrier or Chamædaphne. There is beſides the Lawrell Alexandrina, which ſome call Idæa, [i. Mountaine Lawrell] others Hyppoglottion, [i. Horſe-tongue] ſome Daphnitis, others Carpophyllon or Hypelate. This plant putteth forth

braunches

A braunches immediately from the root, of a span or nine inches long: very proper and handsome to draw workes, or to clad arbours withall in a garden, also to make guirlands and chaplets. The leaves are more sharpe and pointed, softer also and whiter than those of the Myrtle, yea, & have within them a bigger grain or seed, of colour red. Great plentie therof groweth upon the mountaine Ida, likewise about Heraclea in Pontus: and in one word, never but in hillie and mountaine countries.

As for the hearbe Daphnoeides or Laureola, it hath many names. For some tearme it Pelasgum, others Eupetalon, and there are againe who would have it to be Stephanos Alexandri [i. *Alexanders* chaplet.] This plant also is full of branches, carying a thicker and softer leafe than the common Lawrell: and if a man taste therof, it will set both the mouth and also the throat on a fire;
B the berries that it beareth be blackish, inclining to a kind of red. It hath been noted and observed in auncient writers, that no kind of Lawrell in old time was to be found in the Island Corsica: and yet in these daies it is there planted, and thriveth well ynough. The Lawrell betokeneth peace: insomuch, as if a braunch thereof be held out among armed enemies, it is a signe of quietnes and cessation from arms. Moreover, the Romans were wont to send their missive letters adorned with Lawrell, when they would give advertisement of some speciall good newes or joifull victorie: they used besides to garnish therewith their launces, pikes, and speares. The knitches also & bunches of rods, borne before grand captaines and generals of the armie, were beautified and set out with Bay branches. Herewith they sticke and bedecke the bosome of that most great and gracious *Iupiter*, so often as there commeth glad tidings of some late and fresh victorie. And all this
C honor is done to the Lawrell, not because it is alwaies greene, nor for that it pretendeth and sheweth peace (for in both these respects the olive is to be preferred before it) but in this regard, That the fairest and goodliest of them grow upon the mountaine Pernassus: and therefore also is it so acceptable to *Apollo*, for which cause (as may appeare by *L. Brutus*) the Roman kings in old time were accustomed to send great presents and oblations thither to the temple of *Apollo*: or peradventure it was in memoriall of that ground that bare Lawrell trees, and which according to the Oracle of *Apollo*, the said *L. Brutus* kissed, when he intended the publicke freedome of the cittie, and minded to deliver it from the yoke and servitude of the kings: or haply, because it alone either set with the hand before the dores, or brought into the house, is not blasted and smitten with lightning. And these reasons verily induce me to beleeve, that in times past they chose the
D Bay tree for their triumphs, before any other: rather than as *Massurius* would have it, because the Lawrell served for a solemne perfume, to expiate and assoile the carnage and execution done upon the enemies. And so farre were men in old time from common using either Lawrell or Olive, & polluting the same in any prophane use, that they could not be permitted to burn thereof upon their altars when they sacrificed or offered Incense, although it were to doe honor to the gods, and to appease their wrath and indignation. Evident it is, that the Bay tree leaves, by their crackling that they make in the fire, doe put it from them, and seeme to detest and abhorre it. It cureth moreover the diseases of the guts [the Matrice and the Bladder] also the lassitude and wearinesse of the sinewes. It is reported, that *Tiberius Cæsar* the Emperor used ever to weare a chaplet thereof when it thundered, for feare of being stricken with lightening.

E Moreover, certaine strange and memorable events as touching the Bay tree, have happened about *Augustus Cæsar*. For *Livia Drusilla*, (who afterwards by mariage with the said *Augustus*, became Empresse, and was honoured with the title of *Augusta*) at what time as she was affianced and espoused to *Cæsar*, chaunced as she sat still, to have an exceeding faire Hen to light into her lap (which an Ægle flying aloft, let fall from on high) without any harme at all to the said pullet. Now when this ladie or princesse advised and considered well the Hen, without being astonied & amazed at so strange and miraculous a sight, she perceived that the Hen held in her bill a Lawrell branch full of Bay berries. The Wisards and Soothsaiers were consulted withall about this wonderfull occurrent, and gave advise in the end to preserve the bird and the brood therof: likewise to set in the ground the foresaid braunch, and duly to tend and looke unto it. Both the one
F and the other was done and executed accordingly, about a certaine house in the countrie belonging to the *Cæsars*, seated upon the river Tyberis, neare the causey or port-way Flaminia, about nine miles from Rome: which house therupon was called, Ad Gallinas, as a man would say, The signe of the Hens. Well, the foresaid braunch mightily prospered, and proved afterwards to be a grove of Lawrels, which all came from that first stocke. In processe of time, *Augustus Cæsar* when

he

he entred in Triumph into Rome, caried in his hand a braunch of that Bay tree, yea, and wore a chaplet upon his head of the same: and so did all the Emperours and *Cæsars* his successors after him. Hereof also came the custome to set againe and replant those braunches of Lawrell that Emperors held in their hands when they triumphed: & thereof continue whole woods & groves distinguished each one by their severall names, and perhaps therefore were they named Triumphall. This is the onely tree knowne in the Latine tongue, whereof a man beareth the name. Againe, there is not another tree besides that hath the leafe to carie in the Latine tongue a denomination and name by it selfe apart, as well as the tree: for where as the plant is named Laurus, the leafe we call Laurea. Moreover, there is a place likewise within the citie of Rome upon mount Aventine, retaining still the name Loretum, which first was imposed upon it by reason of a Lawrell grove which grew there. The Bay tree also is used in solemne purifications before the gods: and to conclude, this would be resolved and agreed upon by the way, That if a branch thereof be set, it will prosper and become a tree; although *Democritus* and *Theophrastus* make some doubt thereof. Thus much of Lawrels and other domesticall and native trees: it remaineth now to write of those that be wild and savage, and of their natures.

THE XVI. BOOKE OF THE HISTORIE OF NATVRE,

WRITTEN BY C. PLINIVS SECVNDVS.

The Proëme.

Hitherto have we treated of those Trees that beare Apples and such like fruits: which likewise with their mild juice and sweet liquors made our meats first delightsome, and taught us to mingle together with the necessarie food for sustentation of our lives, that which maketh it delicate and pleasant to content our tast: as well those trees that naturally were so in the beginning, as those which through the industrie and skill of man, what by graffing and what by wedding them (as it were) to others, became toothsome, and delectable to our tongue: whereby also wee have gratified in some sort wild beasts, and done pleasure to the foules of the aire. It followeth now by order, that we should discourse likewise of trees that beare Mast, those trees (I say) which ministred the first food unto our forefathers, and were the nourices that fed and cherished mankind in that rude wild age and poor infancie of the world: but that I am forced to breake the course of mine historie, and prevented with a deepe studie and admiration arising from the truth and ground of experience, to consider, What manner of life it might be, to live without any trees or shrubs at all growing out of the earth.

Chap. I.

Of nations that have no trees nor plants among them. Of wonderfull trees in the Northerly regions.

WE have shewed heretofore, that in the East parts verily toward the maine Ocean, there be many countries in that estate, to wit, altogether destitute of trees. In the North also I my selfe have seene the people called *Cauchi, as well the greater as the lesse (for so they be distinguished) where there is no shew or mention at all of any tree. For a mightie great compasse, their countrey lieth so under the Ocean, and

*i. The low countries of Zeland, &c.

A and subject to the tide, that twice in a day & night by turnes, the sea overfloweth a mightie deale of ground when it is floud, & leaveth all drie again at the ebbe & return of the water: insomuch, as a man can hardly tell what to make of the outward face of the earth in those parts, so doubtfull it is between sea and land. The poore sillie people that inhabit those parts, either keepe together on such high hils as Nature hath afforded here & there in the plain: or els raise mounts with their owne labour and handie worke (like to Tribunals cast up and reared with turfe, in a campe) above the height of the sea, at any Spring tide when the floud is highest; and thereupon they set their cabines and cottages. Thus dwelling as they doe, they seeme (when it is high water, & that all the plaine is overspread with the sea round about) as if they were in little barkes floting in the middest of the sea: againe, at a low water when the sea is gone, looke upon them, you would take
B them for such as had suffered shipwracke, having their vessels cast away, and left lying a-side amid the sands: for yee shall see the poore wretches fishing about their cottages, and following after the fishes as they go away with the water. They have not a four-footed beast among them: neither enjoy they any benefite of milke, as their neighbour nations doe: nay, they are destitute of all meanes to chase wild beasts, and hunt for venison; in as much as there is neither tree nor bush to give them harbour, nor any neare unto them by a great way. Sea-weeds or Reike, rushes and reeds growing upon the washes & meeres, serve them to twist for cords to make their fishing nets with. These poore soules and sillie creatures are faine to gather a slimie kind of fattie mud or oase, with their very hands, which they drie against the wind rather than the Sunne: and with that earth, for want of other fewell, they make fire to seeth their meat (such as it is) and heat the
C inward parts of their bodie, readie to bee starke and stiffe againe with the chilling North wind. No other drinke have they but raine water, which they save in certaine ditches after a shower, and those they dig at the very entrie of their cottages. And yet see! this people (as wretched and miserable a case as they bee in) if they were subdued at this day by the people of Rome, would say (and none sooner than they) that they lived in slaverie. But true it is, that Fortune spareth many men, to let them live still in paine and miserie. Thus much as touching want of woods and trees.

On the other side, as wonderfull it is to see the mightie forrests at hand thereby, which overspread all the rest of Germanie: and are so big, that they yeeld both cooling and shade to the whole countrey. Yea, the very tallest woods of all the rest are a little way up higher in the coun-
D trey, and not farre from the Cauchi abovesaid: and especially those that grow about the two great loughes or lakes in that tract. Vpon the bankes whereof, as also upon the sea-coasts, there are to be seene thicke rowes of big Okes, that love their seat passing well, and thrive upon it in growth exceeding much: which trees happening to be either undermined by the waves and billowes of the sea under them, eating within their roots, or chased with tempestuous winds beating from above, carie away with them into the sea (in manner of Iflands) a great part of the Continent, which their roots doe claspe and embrace: wherewith being counterpoised and ballaised, they stand upright, floting and making saile (as it were) amid the waves, by the meanes of their mightie armes which serve in stead of tackling. And many a time verily, such Okes have frighted our fleets and armadoes at sea: and especially in the night season, when as they seemed to
E come directly against their proes standing at anker, as if of purpose they were driven upon them by the waves of the sea: insomuch, as the sailers and passengers within, having no other meanes to escape them, were put to their shifts, and forced for to addresse themselves, and range a navall battell in order, and all against trees, as their very enemies.

Chap. II.

Of the huge and great forrest Hercynia.

IN the same North climate is the mightie forrest Hercynia. A huge and large wood this is, stored with tall and big Okes, that never to this day were topt or lopt. It is supposed they have
F beene ever since the creation of the world, and (in regard of their eternall immortalitie) surmounting all miracles besides whatsoever. And to let passe all other reports which happily would be thought incredible, this is knowne for certaine, That the roots of the trees there, run and spread so farre within the ground, that they encounter and meet one another: in which resistance they swell and rise upward, yea, and raise up mounts of earth with them to a good height

in

in many places: or, where as the earth followeth not, a man shall see the bare roots embowed G
arch-wise, and mounting aloft as high as the very boughes: which roots are so interlaced, or else rub one against the other, striving (as it were) not to give place, that they make a shew of great portailes or gates standing open so wide, that a whole troupe or squadron of horsemen may ride upright under them in ordinance of battell.

Chap. iii.

Of trees bearing Mast.

MAst trees they were all, for the most part, which the Romanes ever so highly honoured and held in best account. H

Chap. iiii.

Of the Civicke guirland: and who were honoured with chaplets of tree-leaves.

FRom Mast trees [and the Oke especially] came the Civicke coronets. And in very truth, these were the most honourable badges and ornaments that could possibly bee given unto souldiours and men of warre, in regard of their vertue and manhood: yea, and now for a good while, our Emperours have had this chaplet graunted unto them, in token and testimonie of clemencie: ever since that by our prophane and unkind civile warres the world is growne to this passe, that it is reputed a singular demerite and gracious act, not to kill a cittizen of Rome, I
but to let him live. To this kind of guirland, none other be comparable: for the Murall and Vallare coronets (bestowed upon them that either skaled the walls, or entred the breach first into an enemie citie, or else mounted over the rampier of a campe) albeit they were of gold, and of greater price by farre, yet they gave place to these. Yea, the very Navall coronets, fashioned like the three forked pikes of ship beake-heads (wherwith they were honoured, who had performed some brave service at sea) came behind these Civick guirlands, due to them who have rescued citizens and saved them out of the enemies hands: and yet in these our daies there have beene knowne twaine in that kind most renowmed above the rest; whereof the one was bestowed upon *M. Varro*, by *Pompey* the Great, for defeating the pyrates, and for scouring & clearing the seas of them: the other likewise given to *M. Agrippa*, by [*Augustus*] *Cæsar*, for vanquishing the Sicilians, who K
also were no better than rovers.

Now for as much as we are light upon the mention of Navall or Rostrate coronets, this would be noted, That in old time the said brasen beake-heads of ships woon from the enemies, and set upon the front of the Tribunall or publicke pulpit in Rome, served for an ornament to beautifie the Forum or common place of the citie; so as the very bodie of the people of Rome seemed to be crowned and honoured thereby. But after that the Tribunes in making seditious Orations, began to stampe and fare like mad men there, to trample (I say) under foot, and to pollute that sacred place and those goodly ensignes; after that they fell once every man to make his privat and particular profit of the common good, without regard to advance the weale publicke; after that L
each one sought to strengthen and arme himselfe by the benefite of authoritie, and that to the weakening of the maine state, insomuch as they who were reputed by their place sacrosanct and inviolable, polluted and prophaned all: then the said ornaments of beake-heads, which beautified the place under their feet, served to adorne the heads of Romane cittizens. So as, to returne againe now to the abovenamed *Agrippa*, *Augustus Cæsar* gave unto him a Navall coronet for subduing the Sicilian pyrates: and himselfe received of mankind a Civicke chaplet, for sparing the bloud, and saving the lives of so many citizens.

In auncient time they used to crowne none but the gods. And hereupon it is, that the Poët *Homer* speaketh of no guirlands and chaplets but due to the celestiall & heavenly wights, or at leastwise in the name of a whole armie, for victorie atchieved in some notable battell: for to one man alone hee alloweth not any, no not in regard of the better hand in combate or single M
fight. And to say a truth, the first that ever set a guirland upon his owne head, was prince *Bacchus*, and the same was made of Ivie: but afterwards, those that sacrificed to the honor of gods, not only ware chaplets themselves, but also adorned therewith the heads of the very beasts which were appointed to be killed for sacrifice. In the end, the custome was taken up to honor them with guir-

A guirlands, who wan prizes at thoſe ſacred and ſolemne games, Olympia, Iſthmia, Pythia, and Nemœa. Howbeit the manner was then, and ſo continueth to this day, To give chaplets to the ſaid victours, not in their owne name, but in the behalfe of their native country, which by open proclamation they pronounce to be crowned and honoured thereby. And hereof it came alſo, that ſuch coronets and chaplets were graunted to them that ſhould triumph, yea and ſoon after to thoſe alſo who had woon the prize in any publick games, upon condition to dedicate them to the temple of the gods.

To diſcourſe what Romane cittizen received this honour firſt of a chaplet or coronet, were a long peece of worke, and nothing pertinent to our purpoſe and matter in hand; conſidering that they were acquainted with none at all, but in regard of ſervice performed in the warres. Yet thus
B much I may averre for certein, That no nation under heaven, nay put them all togither, can ſhew ſo many ſorts of chaplets and coronets, as this one ſtate and people of Rome. K. *Romulus* crowned *Hoſtus Hoſtilius* with a guirland of bare greene leaves, for that in the forcing and ruining of Fidena, he brake firſt into the citie and made way for the reſt. This man was grandſire to *Tullus Hoſtilius* king of Rome. Semblably in the warre againſt the Samnites, wherein *Cornelius Coſſus* the Conſull was L. Generall, the whole armie crowned *P. Decius* the father with a chaplet of greene leaves, who then was a martiall Tribune or Colonell over a regiment of ſouldiors, for that he had ſaved and delivered the ſaid armie.

But now to come againe to our Civicke guirland, it was made at firſt of the Ilex or Holme tree leaves: afterwards men tooke a better liking to make it of the Æſculus, a tree conſecrated
C to *Iupiter*. They ſtaied not there, but chaunged ſoone after with the common oke; neither made they any preciſe choiſe, but tooke the leaves of that which came next hand, whereſoever they found it growing; provided alwaies that it bare acorns: for all the honour of theſe guirlands conſiſted principally in the maſt. Moreover, there belong to theſe Civicke guirlands ſtreight lawes and ordinances, in which regard theſe chaplets be proud and ſtately: and wee may be bold to compare them with that Paragon-coronet of the Greekes, which paſſeth all others, given ſolemnly and publiſhed in the preſence of *Iupiter*, and made of the wild Olive dedicated unto him: comparable (I ſay) to any crowne or chaplet whatſoever; even to that, for which a citie in token of joy, would not ſticke to lay open a * breach in their very wall to receive it when it ſhould enter in. The lawes ordained in this behalfe run in this forme. *Imprimis, Hee that is to enjoy the*
D *honour of a Civicke chaplet, ought, Firſt, To have reſcued a citizen, and withall to kill the enemie in whoſe daunger he was. Item, It is required, that the enemies the ſame day held the very ground and were maſters hereof, wherein the reſcue was made and the ſervice performed. Item, That the partie himſelfe ſo ſaved, doe confeſſe the thing, for otherwiſe all the witneſſes in the world availe not in this caſe. Item, The man thus delivered, muſt be a free citizen of Rome in any hand: for ſet caſe that hee were a king which was thus reſcued, if he were a ſtraunger, and came only among the auxiliaries to aid the Romans, it would not boot, nor gaine any man this honour for to ſave his life. Item, Say that the Generall himſelfe were reſcued and delivered out of daunger, the partie for his good ſervice ſhould have no more honour done unto him, than if he had preſerved but a ſimple common ſouldior, ſo hee were a Romane citizen: for the makers of theſe ordinances aimed chiefly at the life of a citizen who-*
E *ſoever he was, without regard of any other circumſtance. Item, Hee that was once crowned with this guirland, was endued alſo with theſe priviledges: That he might weare it alwaies after, whenſoever it pleaſed him: That ſo often as he came in place of publicke plaies or games, men ſhould accuſtomably riſe up unto him, yea and the very Senators themſelves, doe him honour in that ſort: That he ſhould have his place allowed him to ſit next to thoſe of Senators degree: That both himſelfe, and alſo his father and grandfire by the fathers ſide, ſhould ever after be exempt from all civile charges and enioy full immunitie.* Thus much concerning the lawes and priviledges attending upon the Civicke guirland. *Siccius Dentatus* (as we have ſpecified before) received fourteen of theſe chaplets for his good ſervice: [*Manlius*] *Capitolinus* ſix, and he verily had one of them for reſcuing *Servilius* being Generall of the armie. As for *Scipio Africanus*, he refuſed this honour when it was of-
F fered and preſented unto him, for ſaving the life of his own father at the journey and battaile of Trebia. O the excellent orders & cuſtoms of thoſe times, worthie of immortalitie & everlaſting memorie! O the wiſdome of men in thoſe daies, who aſſigned no other reward for ſo brave exploits and ſingular works, but honor only! and wheras all other militarie coronets they enriched and adorned with gold, they would not ſet the life of a citizen at any price. A plaine and evident

* As the manner was to receive the Hieronicæ.

profession of our auncestors and predecessours, That it is an unlawfull and shamefull thing to G
seeme for to save a mans life, in hope of any gaine and profit thereby.

Chap. V.

Of Mast, thirteene kinds.

MAny nations there be even at this day, and such as enjoy peace and know not what warre meaneth, whose wealth and riches lyeth principally in Mast: yea and elsewhere in time of dearth and for want of other graine, folke use to drie their mast, grind it into meale, temper it with water, and thereof make dough for bread. Moreover, even at this day throughout Spaine, the manner is to serve up acorns and mast to the table for a second service: & sweeter it is being rosted under the cinders and ashes, than otherwise. Over and besides, provided it is H
by an expresse act and law of the twelve tables in Rome, That a man may gather the mast that falleth from his owne trees into another mans ground.

Divers and sundrie sorts there be of Mast, and their difference consisteth in the forme and fashion of the fruit, in the site and situation of the place, in the sex, and in the tast: for the mast of the Beech tree is of one figure and making, the Acorne (which is the mast of the Oke) another; and the mast of the Holme or Ilex, differeth from them both: yea & in every one of these kinds, they doe varie one from another. Also, some are of trees growing wild; others more mild and gentle, loving places well tilled and ordered by husbandrie. Some like the hillie countries, others the champaine and the plaines. Semblably there is mast comming from the male trees: there is again that groweth on the female. In like manner, the rellish and tast maketh a difference I
and diversitie in mast. The sweetest of all, is the Beech mast: for *Cornelius Alexander* reporteth, That the inhabitants of Chios, when they were streightly beleaguerd, endured the siege a long time by the benefit and substance onely of the mast. We are not able distinctly to specifie name by name, the sundrie sorts of mast and the trees which beare the same, considering that in everie countrey they alter their names: for wee see the Robur and the Oke to grow commonly everie where, but the Esculus is not so rife in all countries. A fourth sort there is of the same kind, which is not knowne ordinarily in most places of Italy. We will therefore distinguish them according to their nature and properties: yea and when need shall require, by their Greeke names also.

Chap. VI. K

Of the Beech mast, and other Masts: of Charcole: and the feeding of Hogs.

THe Beech mast is like to the kernell of a Chestnut, enclosed within a three-cornered skin. The leafe of the tree is thin and very light, resembling that of the Poplar: it turneth yellow passing soone. In the middle whereof, for the most part, and in the upper side, it bringeth forth a little greene berrie, pointed sharpe at the top. The mast of Beech, Rats and Mice are much delighted in: marke therefore when there is store of that mast, yee shall have as great encrease of that vermin. It will feed also Reremice or Dormice fat: and the Ousels or Blackbirds take a great liking thereto, and will flie unto it. Lightly, all trees are more fruitfull one year than L
another, and beare most every second yeare; but above all, Beeches keepe this course. As touching Mast (which properly is so called) it groweth upon the Robur, the common Oke, the Esculus, Cerrus, Ilex, and Corke tree. All kinds of mast are conteined more or lesse, within a rough cup, which lieth close to the utmost skin thereof, & claspeth it about. The leaves of all these mast trees, except the mast-Holme Ilex, be heavie, fleshie, large, waved or indented along the sides, neither be they yellow when they fall, as the Beech leaves are; longer also or shorter, according to the divers trees whereupon they grow.

Of the Ilex or mast-Holme tree, there be two sorts. Those in Italy differ not much in leafe from the Olive. Some Greekes call them Smilaces, but in other provinces Aquifoliæ. The mast of Ilex, both the one and the other, is shorter and slenderer than of the rest: *Homer* calleth it M
Acylon, by which name he distinguisheth it from other mast. The male Holms (men say) beare no fruit. The best mast and the biggest, is the Acorne growing upon the common Oke: next to it is that of the Esculus: as for that of the Robur, it is but small. The Cerrus carrieth a mast unpleasant to the eie, and rough to be handled, for clad it is with a cup beset with sharpe pricks like

to

A to the Chestnut shell. Among the very Acornes, some have a sweeter rast than others: the female Oke beareth those that be more soft and tender; the male, tough, thicke, and massie: and the best simply are those that come of the broad-leafed Oke, for so it is called by reason of the large leaves. Moreover, there is another difference in mast and acorns, for some be bigger than others; again, there are that have thin & fine skins enclosing the kernell; and ye shall find others for them as thicke skinned; likewise many of them are covered with a rough and rustie tunicle; and as many againe do shew immediatly their bare white skin and naked fleshie substance. Furthermore, that mast is accounted good, which at both ends (taking it long-waies) groweth hard in manner of a stone: howbeit that which hath an hard shell without, and a soft bodie within, is better than that which is hardened in the carnous substance of the bodie; and lightly neither of
B both these qualities happeneth to any but the male kind. Over and besides, some you shall find fashioned long like an egge; others as round as a ball; and a third sort sharpe pointed. The outward colour also yeeldeth varietie: for some be blacker than other, but the whiter commonly be the better set by. Some are bitter toward the ends, and sweet in the mids. The length also, & the shortnesse of the stele or taile whereto they hang, maketh a difference. The very tree it selfe causeth diversitie of the fruit: for that oke which beareth the biggest mast, is named Hemeris. A shorter tree this is than the rest, with a round head, and putting foorth many hollow armepits (as it were) of boughs and braunches. The wood or timber of the ordinarie and common Oke is tougher and harder than that of others, and lesse subject to putrefaction: full of arms & boughs it is, as the other, but it groweth taller and is thicker in the bodie. The highest of all, is the Ægi-
C lops, which loveth to grow in wild and desart places. Next to it for talnesse, is the broad leafed Oke, but the timber thereof is not so good and profitable for building, howsoever it be employed for to make charcole: yet being once squared to that purpose, & cleft, it is subject to the worme, and will soone rot: and for this cause, being in quarters, they use not to make cole of it cloven, but of the solid and round boughs or braunches thereof. And yet this kind of charcole serveth onely the Bloome-smithies and furnaces; the hammer-mils also of brasse and copper-smiths, whome it standeth in great good stead and saveth them much fewell; for it burneth and consumeth no longer than the bellowes goe: let them leave blowing once, presently the cole dieth; and so it lasteth long: for at every new blast it is renewed againe and refreshed: otherwise it sparkleth very much and yeeldeth many cinders. But the charcole made of yong trees is the better.
D Now the manner of making them, is this: when the wood is cut into many clefts & splents, fresh and green, they are heaped up on high, and hollow, in manner of a furnace or chimney, and then well luted with clay in the top, and all about: which done, the pile of truncheons aforelaid, is set on fire within; and as the outward coat or crust of clay beginneth to wax hard, the workemen or colliars pierce it with poles and pearches, and make divers holes therein for vent, and to let out the smoakie vapour that doth sweat and breath from the wood. The worst of all other for timber or cole, is the oke named Haliphleos; a thicke barke it hath, and as big a bodie, but for the most part hollow and light like a spunge or mushrome: and there is not another besides it of all these kind of trees, that rotteth as it stands alive. Besides, so unfortunate it is, that the lightning smiteth it, as low as it groweth; for none of them ariseth to any great height: which is the
E cause that it is not lawfull to use the wood thereof about the burning of any sacrifice. Seldome beareth it any Acorns, and those few that it hath, be exceeding bitter, so as no other beast will touch them, but swine again; nor they neither, but for pure hunger, when they can meet with no other food. Moreover, in this regard also rejected it is, and not employed in any religious use, for that without blowing at the wood and cole thereof continually, it will not burne cleare and consume the sacrifice, but goeth out and lieth dead.

But to returne unto our mast againe: That of the Beech tree feedeth swine quickly, maketh their flesh and lard faire and pleasant to the eye, tender to be soone sodden or rosted, light and easie of digestion, and good for the stomacke. The mast of the Holme causeth hogs to gather a more fast and compact flesh, their bodies to be neat, slender, lanke, and ponderous. Acorns doe
F engender a fleshie substance, more square and spreading, and the same also most heavy and hardest of digestion, and yet they are of all other kinds of mast, most sweet and pleasant. Next to them in goodnesse (by the testimonie of *Nigidius*) is that of the tree Cerrus, neither is there bred of any other a courser flesh, howbeit hard it is, fast, and tough. As for the mast of Ilex, hogs are endaungered by eating thereof, unlesse it be given them warily by little and little. Hee saith

moreover, that of all other it falleth last. Moreover, the mast of Esculus, Robur; and the Corke; G
causeth the flesh to be spungeous and hollow. To conclude, what trees soever beare mast, carrie also certaine nuts called Galls: and lightly they are full of mast but each other yeare. But the oke Hemeris beareth the best galls, and fittest for the curriours to dresse their leather. The broad leafed oke hath a kind of galls like unto it, but lighter in substance, and not so good by far: it carieth also blacke galls (for two sorts there be) and this is better for the dier to colour wooll.

Chap. VII.

Of the Gall-nuts: and how many other things Mast-trees doe beare besides Mast.

H

THe nuts called Galls, doe ever breake out all at once in a night, and namely about the beginning of Iune, when the sunne is readie to goe out of the signe Gemini. The whiter sort thereof commeth to the growth in one day: and if in the first spring and breaking foorth thereof it be hot weather, it drieth and withereth out of hand, and commeth not to the full bignesse and perfection, namely to have a kernell as much as a Beane. The blacke of this kind continueth longer fresh and greene, and groweth still, to the bignesse otherwhiles of an apple. The best Galls be those of Comagena: the worst is that of the oke called Robur, which are knowne by the holes they have, that may be seen through. The common oke Quercus, over and besides the fruit (which is the mast) beareth many other things; for it carieth both sorts of Gall, the black and the white: certaine berries also like Mulberries, but that they be drie and hard, resembling I
for the most part a Bulls head, conteining within them a fruit much like the kernels of the Olive. Moreover, there grow upon it certain little balls not unlike to nuts, having soft flox within good to make candle-wieke or matches for lamps; for burn they will without any oile, like as the black Galls. It beareth also other little pills or balls good for nothing, covered over with haire, & yet in the spring time they yeeld a certain juice or liquor like honey. Furthermore, there breed in the hollow arme-pits (as it were) of the boughs, other small pills setled or sticking close to the wood, and not hanging by any steles, which toward the navill or bottome thereof are whitish; otherwise they be speckled all over with blacke spots, save that in the mids betweene they are of a scarlet red colour: open them, and hollow they are within, but very bitter. Sometimes also this Oke engendreth certain hard callosities, like Pumish stones; yea and other round balls made of K
the leaves folded one within another: on the backeside also of the leafe where it is reddish, yee shall find sticking certaine waterish pearls, white and transparant or cleare within, so long as they be soft and tender, wherein there breed little flies or gnats: howbeit in the end they ripen and wax harder, in manner of Galls.

Chap. VIII.

Of the Catkin called Cachrys: the graine of Scarlet: of Agaricke, and Corke.

THe Oke called Robur, bringeth forth likewise a certaine pendant chat or catkin, named in L
Greecke Cachrys: for so they tearme the little pill, which is of a burning and caustick nature, and whereof there is use in Physicke for potentiall cauteries. The like groweth upon Firres, Larch trees, Pitch trees, Lindens or Tillets, Nut-trees, and Planes, namely after that the leaves be falne; and abideth upon the tree in winter time. These chats have a kernell within like to those of the Pine-nuts. It beginneth to grow in winter, and by the spring time all of it openeth and spreadeth to the proofe; but when the leaves begin to bud and put forth, it falleth off. Thus you see how fruitfull these Okes be, and how many things besides mast, they do bring forth. And yet they cease not nor give over thus, for many times a man shall see certaine excrescences growing forth about their roots, such as toadstools and mushroms; the last devises that our gluttons have invented to whet their appetite and stomacke, and to maintaine gourmandize. The M
common Oke breedeth the best of this kind: as for those that grow about the Oke Robur, the Cypresse, and Pine tree, they are hurtfull to be eaten and venomous. Moreover, *Hesiodus* saith, that the Okes Robora do beare Misselto, and yeeld honey. True it is indeed, that the honey-dews called Manna, falling from heaven (whereof we have spoken before) light not upon any other

leaves

A leaves more than of those Okes. Moreover, this is knowne for certain, that the ashes of this oke when it is burnt, hath a qualitie or tast of nitre or salt-peter.

Howbeit for all the riches and fruit that the Oke affourdeth, the Scarlet graine alone which commeth of the Ilex, challengeth yea and overmatcheth it. This graine is no other than a verie excrement or superfluitie arising about the stem of the small shrub called Ilex Aquifolia, scraped and pared off from it, like such refuse as they call Cusculium, or Quisquilium: but of such price it is, that the poore people of Spaine gather it, & make a good part of their revenew thereby, even as much as will pay halfe their tribute. As touching the commendable use thereof in dying, wee have sufficiently spoken in the discourse of the purple tincture. This scarlet graine is engendred also in Galatia, Africa, Pisidia, and Cicilia. But the worst of all other is that which

B commeth out of Sardinia.

As for Agaricke, it groweth in Fraunce principally upon trees that beare mast, in manner of a white mushrom: of a sweet savor, very effectuall in Physicke, and used in many Antidotes and soveraigne confections. It groweth upon the head and top of trees: it shineth in the night, and by the light that it giveth in the darke, men know where and how to gather it.

Of all Mast trees, the Oke called by the Greekes Ægylops, beare certaine drie excrescences swelling out like touchwood, covered all over with a hoarie and hairie mosse, and these not onely beare out from the barke of the fruit, but also hang downe from the boughs a cubit in length: and odoriferous they are, as we have shewed in our treatise of Ointments.

Now concerning Corke, the woodie substance of the tree is very small, the mast as bad, hol-

C low, spongeous, and good for nothing. The barke onely serveth for many purposes, which will grow again when the tree is barked, and that of such a thicknes, that it will beare ten foot square. Much use there is of it in ships, & namely for boys to ancre cables; also for flotes to trainels or dragnets that fishers doe occupie: moreover in bungs and stopples of barrels, bottles, and such like vessels. Finally, our gentlewomen and daintie dames have the soles of their pantofles and winter-shoes underlaid therewith. In regard of which barke, the Greekes call it by a prety name, and not improperly, The Barke tree, or the tree all barke. Howbeit some would have it to be the female Ilex or mast Holm, and so they name it: and where there groweth no Ilex, in stead thereof they take Corke, especially in carpentrie and cart-wrights worke, as about Elis and Lacedæmon. Neither groweth it in all parts of Fraunce, ne yet in any one quarter of Fraunce.

D

Chap. IX.

What trees they be that carrie barke good for any use.

THe paisants of the countrey and the rusticall people employ much, the barke also of Beeches, Lindens or Tillets, Firres, and Pitch trees: for thereof they make sundry vessels, as paniers, baskets, and certain broad and wide hampers for to carrie their corne and grapes in time of harvest and vintage, yea and otherwhiles they cover their cottages therewith. Moreover, spies use to write in barkes (when they be fresh and green) intelligences to their captaines; graving and drawing their letters so, as that the sap and juice thereof covereth them. To con-

E clude, the barke of the Beech tree is used in certaine religious ceremonies of sacrifice: but when the tree is spoiled of the barke, it soone fadeth and dieth.

Chap. X.

Of Shindles: of the Pine tree, the wild Pine, the Firre, Pitch tree, Larch tree, Torch tree, and the Yew.

THe bourds or shindles of the wild Oke called Robur, be of all others simply the best: and next to them, those which are made of other mast-trees, and especially of the Beech. The shindles are most easily rent or cloven out of all those trees which yeeld Rosin, but setting

F aside the Pine-wood onely, none of them are lasting. *Cornelius Nepos* writeth, that the houses in Rome were no otherwise covered over head but with shindles, untill the warre with K. *Pyrrhus*, to wit, for the space of 470 years after the foundation of the citie. And of a truth, the chiefe quarters of Rome were divided and distinctly named by certain woods and groves neare adjoyning. And even at this day there remaineth the quarter of *Iupiter Fagutalis*, where sometime stood a tuft or

grove of Beeches: also the gate Querquetulana, bearing the name of an Oke-row: likewise the G
hill Viminalis, from whence they used to fetch windings and bands of osiers: and many other groves, whereof some were set double, and were two of a name. Wee read in the Chronicles, that *Q. Hortensius* Dictator for the time being, (when as the commons arose, and in that mutinie or insurrection forsook the citie and withdrew themselves to the fort Ianiculum) made a law and published it within a certaine grove hard by, called Esculetum, where there grew a number of trees named Esculi, and the said statute ran in this forme, That whatsoever ordinance should be enacted by the same Comminaltie, it should bind all citizens of Rome whomsoever, to observe and keepe.

In those daies the Pine and Firre, and generally all trees that yeeld Pitch, were held for straungers and aliens, because none of them were knowne to grow near unto the citie of Rome: wherof H
now we will speake, the rather because the beginning and the whole manner of confecting and preserving wines, might be thereby throughly known. First and formost, some of the trees aforesaid in Asia or in the East parts, doe bring forth Pitch. In Europe there be sixe sorts of trees, seeming all of one race, which yeeld the same. Of which, the Pine and the Pinaster carie leaves thin and slender in manner of haires, long also and sharpe pointed at the end. The Pine beareth least Rosin of all others, howbeit otherwise some it hath in the verie fruit thereof, which we call Pine-nuts or apples (whereof we have alreadie written) yet so little it is, that hardly a man would reckon the Pine among those kind of trees that yeeld Rosin. The Pinaster is nothing els but the wild Pine: it groweth wonderfull tall, putting forth armes from the mids of the trunke or bodie upward; whereas the other Pine, braunceth only in the head: this of the twaine is more plentifull I
in Rosin, whereof we will speake more anon. These wild Pines grow also upon plains. There be trees upon the coasts of Italie which men call Tibuli, and many think they be the same, although they carie another name: slender they are and shorter, altogither without knots, and little Rosin they have in them or none: but they serve very well for shipwrights to build frigats & brigandins.

The Pitch-tree loveth the mountains and cold grounds: a deadly and mournfull tree it is, for they used in old time to sticke up a braunch thereof at the dores of those houses where a dead corps was, to give knowledge thereof abroad: yea and commonly it grew greene in churchyards and such places where the manner was to burne the bodies of the dead in funerall fires: but now adaies it is planted in courtyards and gardens near our houses, because it may be easily kept with cutting and shredding, it braunceth so well. This tree putteth forth great abundance of Rosin, K
with white graines or kernels comming betweene, so like unto Frankincense, that if it be mingled therewith, unneth or hardly a man may discerne the one from the other by the eye. And hereupon it commeth, that druggists and Apothecaries doe sophisticate Frankincense and deceive folke with it. All the sort of these trees are leafed with short, thicke, and hard prickie bristles, in manner of the Cypresse. The Pitch tree beginneth to shoot forth braunches even from the very root almost, and those be but small, bearing out like armes, and sticking one against another in the sides. Semblably do the Fir-trees, which are so much sought for to serve shipping: and yet this tree delighteth in the highest mountains, as if it fled from the sea of purpose, and could not away with it: and surely the forme and manner of growing is all one with the Pitch tree. The L
wood thereof is principall good timber for beames, and fitteth our turne for many other necessities of this life. Rosin if it be found in the Firre, is thought a fault in the wood, whereas the only commoditie of the Pitch tree, is her Rosin; and yet sometime there frieth and sweateth out a little thereof, in the extreme heat of the sun. The timber of them both is not alike, for that of the Firre is most faire and beautifull; the Pitch tree wood serveth only for cloven lath, or rent shindles, for Coopers to make tubs and barrels, and for some few other thin bourds and painels.

As for the Larch tree, which is the fift kind of those that beare Rosin: like it is to the rest, and loveth to grow in the same places: but the timber is better by ods, for it rotteth not, but will last and endure a long time: the tree will hardly be killed: besides, it is red of color, and carieth an hoter and stronger smell than the other. There issueth forth of the tree as it groweth, good store of liquid Rosin, in colour like to honey, somwhat more clammie, which will never grow to be hard. M

A sixt sort there is of these trees, and it is properly called Teda, [*i.* the Torch-tree:] the same yeeldeth more plentie of moisture and liquor than the rest: lower it is of growth than the Pitch-tree, but more liquid and thin: very commendable also to maintain fire at sacrifices, and to burn in torches for to give light. These trees, I meane the male onely, bring forth that strong and stin-

king

A king rosin, which the Greekes call Syce. Now, if it happen that the Larch tree prove Teda [i. to be Torch-wood] it is a signe that it doth putrifie, and is in the way of dying.

The wood of all these kinds beforenamed, if it be set a fire, maketh an exceeding grosse and thicke smoke, and presently turneth into a coale, spitting and sparckling a farre off; except that only of the Larch tree, which neither burneth in light flame, nor maketh coale, ne yet consumeth in the fire no otherwise than a very stone.

All these trees whereof we speake, continue green all the yeare long: and very like they are in leafe, that men otherwise of cunning and good experience, have ynough to doe to discerne one from the other by it, so neare of kin they be, and their race so much intermingled. But the Pitch-tree is not so tall as the Larch: for the Larch is thicker in bodie, of a thinner and lighter barke;
B more shag leaved, and the said leaves fattier, growing thicker, more pliable, & easier to wind and bend: whereas the leaves of the Pitch-tree hang thinner, they be of a drier substance, more slender, and subject to cold; and in one word, the whole tree is more rough and hideous to see to, and withall, full of rosin; the wood also resembleth the Firre, rather than the Larch.

The Larch tree, if it be burnt to the very stumpe of the root, will not spring againe and put forth new shoots: whereas the Pitch tree liveth still for all the fire, and will grow afresh: the experience whereof was seene in the Island Lesbos, at what time as the forrest Pyrrhæum was set on fire, and cleane burnt to the ground.

Moreover, every one of these kinds differ in the very sex: for the male of ech kind is shorter and harder: the female taller, having fattier leaves, and the same soft and plain and nothing stiffe and
C rugged. The wood of the male, is tough, and when it is wrought, keepeth not a direct graine, but windeth and turneth, so that the Carpenter must go every way about it both with axe and plain: contrariwise, that of the female is more frim and gentle. And commonly the axe or the hatchet will tell the difference of male and female in any tree; for what wood soever it be, it will soon find and feele the male, for hardly is it able to enter, but either turneth edge or rebounds again: & whether a man hew or cleave withall, it maketh more crashing and a greater noise where it setleth and taketh hold; it sticketh also faster, and with more adoe is plucked forth. Furthermore, the very wood of any male tree, is of a more browne and burnt colour, yea, & the root of a blacker hew.

About the forrest Ida within the territorie of Troas, there is another distinction of trees in the same kind: for some grow upon the mountaines, others toward the coast and the sea side. In Ma-
D cedonie, Arcadia, and about Elis, these trees eftsoones change their names: insomuch, as the Greeke writers are not agreed how to distinguish their severall sorts, and to raunge them duly in their kind. For mine owne part, I have set them downe distinctly according to the judgement of Romane and Latine Authors.

Of all the trees abovenamed, the Firres surpasse for bignesse: and the females are the taller. The timber is more frim and soft, more profitable also and easier to be wrought: the tree it selfe rounder, and so it brauncheth arch-wise: the boughs as they resemble wings stretched out and displaied, so they stand so thicke with leaves, that they will beare off a good shower, insomuch, as no raine is able to pierce through. In summe, the female Firre is farre more lovely and beautifull every way than the male.

E All the sort of these foresaid trees, save onely the Larch, beare certaine knobs like Catkins or Chats, composed (as it were) of many skales wrought one over another, and those hang downe dangling at the braunches. These knobs or clogs of the male Firre, have in the upper end a kernell within: but those of the female have no such thing. Moreover, the Pitch tree as it hath such Catkins lesse and slenderer; so all within, from one end to the other, the kernels be passing little and blacke withall, like to lice or fleas: which is the reason, that the Greekes call it Phthirophoros. The said Catkins of the male Pitch trees are more flat, and nothing so round as those of the females, lesse gummie also and not so moist of the rosin.

To come now to the Yugh, because we would overpasse none: it is to see to, like the rest, but that it is not so greene; more slender also and smaller, unpleasant and fearefull to looke upon, as
F a cursed tree, without any liquid substance at all: and of these kind of trees, it alone beareth Berries. The fruit of the male is hurtfull: for the berries in Spaine especially, have in them a deadly poyson. And found it hath been by experience, that in Fraunce the wine bottles made thereof for wayfaring men and travellers, have poysoned and killed those that drunke out of them. *Sestius* saith, that the Greekes call it Smilax: and that in Arcadia it is so venomous, that whosoever take

take either repoſe or repaſt under it, are ſure to die preſently. And hereupon it commeth, that G
thoſe poyſons wherewith arrow heads be envenomed, after ſome were called in times paſt Taxica, which now wee name Toxica. But to conclude, it is ſeene by good proofe, that if a braſen wedge or ſpike be driven into the very bodie of the tree, it looſeth all the venomous nature, and becommeth harmeleſſe.

Chap. xi.

How to make all kinds of Pitch. The manner how Cedrium is made. Alſo, of thicke pitch, how it is made, and in what ſort Roſin is boiled.

THe liquid Pitch or Tarre throughout all Europe, is boiled out of the Torch tree: and this H
kind of Pitch ſerveth to calke ſhips withall, and for many other uſes. Now the manner of drawing Tarre out of this tree, is, to cut the wood thereof into peeces, and when they are piled up hollow into an heape, to make a great fire within, as it were under a furnace, being claied without-forth: thus with the heat of the fire it doth frie and ſeeth againe. The firſt liquour that ſweateth and iſſueth forth, runneth cleare as water, in a channell or pipe made for the purpoſe: and this the Syrians call Cedrium: which is of ſuch force and efficacie, that in Ægypt they uſe to embaulme the dead bodies of men and women departed, and keepe them from putrifaction. At the next running it is thicker, and this ſecond liquor is very Pitch. Howbeit, this is caſt again into certain coppers or cauldrons of braſſe, and together with vinegre ſodden a ſecond time, untill it come to a thicke *conſiſtence: and when it is thus thickened, it taketh the name of Brutian I
*Palimpaſſa, i. Stone-pitch. Pitch, good onely for tuns, barrels, and other ſuch veſſels. Much like it is to the former Pitch, but that it is more glutinous and clammie, redder alſo of colour, and more fattie. And thus much concerning the Pitch made of the Torch-tree.

As for that which commeth of the Pitch tree, the Roſin thereof is drawn with redhot ſtones in certain veſſels made of ſtrong and thicke Oken plankes: or, in default thereof the wood is cloven into peeces, and piled together, after the order of a charcole hearth, and ſo the pitch boileth foorth. The uſe hereof, when it is beaten into a kind of meale or powder, is to bee put into wine, and it is of a blacker colour than the reſt. The ſame pitch-roſin, if it be boiled more lightly with water, & be let to run through a ſtrainer, commeth to a reddiſh colour, and is glewie: and thereupon it is called Stilled pitch. And for this purpoſe lightly, is let by the more groſſe & faultie ſubſtance of the roſin, together with the barke of the tree. K
But there is another compoſition and manner of making pitch that ſerveth for headie wine, called Crapula. For the flower of the roſin is taken greene and freſh, as it diſtilleth from the tree, together with a good quantitie of ſmall, thinne, and ſhort ſpils or chips of the tree plucked away with the ſame: the ſame are ſhred and minced ſo ſmall, as they may paſſe through a ſieve or a riddle: which done, all is put into ſcalding water, and there boileth untill it be incorporate with the water. The fat ſubſtance that is ſtrained and preſſed from hence, is the excellent pitch-roſin, hard to come by, and not to bee found in Italie, unleſſe it bee in few places under the Alpes; and ſingular good it is in Phyſicke. Now for to make it paſſing white, there muſt bee taken one gallon of the roſin, and L
ſodden in two gallons of raine-water. But ſome thinke it the better way, to ſeeth it a whole day together at a ſoft fire, without any matter at all, in a pan or veſſell of latton. Others there be likewiſe that boile Terpentine in a hote frying pan, and are of opinion, that this is the beſt of all others. And the next to it in goodneſſe, is the Lentiske roſin, called Maſtich.

Chap. xii.

Of the Pitch Zopiſſa, which is ſcraped from ſhips, and of Sapium. Alſo, what trees are in requeſt for their timber.

IT would not bee forgotten, that the Greekes have a certaine Pitch, ſcraped together with M
waxe from ſhips that have lien at ſea, which they call Zopiſſa (ſo curious are men to make experiments and trie concluſions in every thing:) and this is thought to bee much more effectuall for all matters that pitch and roſin are good for, by reaſon of the faſt temperature that it hath gotten by the ſalt water.

For

A For to draw roſin out of the *Pitch-tree, it muſt be opened on the Sun ſide, not by giving a ſlit or gaſh in the barke, but by cutting out a peece therof, ſo that the tree may gape and lie bare two foot at the moſt: and from the earth, this wound to bee at leaſt a cubite. Neither doe they ſpare the entire bodie and wood of the tree, as they doe in the reſt: for there is no daunger thereof, conſidering that the very chips of the wood being cut out, are full of liquor, and doe ſerve to make pitch. But the nearer that the ſaid ouverture or hole is made to the earth, the better is the roſin that iſſueth forth: for if it be higher, it is bitter. When this is done, all the humour afterwards runneth to the ulcer or inciſion aforeſaid, from every part of the tree. The like it doth in the Torch pine. When it hath left running to the firſt hole, there is a ſecond likewiſe made on another ſide, and ſo ſtill is the tree opened every way: untill at length tree and all is hewed down, B and the very pith and marrow thereof ſerveth for Torch wood to burne. Semblably, in Syria they uſe to plucke the barke from the Terebinth, yea, and they pill the boughs and roots too for Terpentine, howſoever in other trees the roſin iſſuing out of thoſe parts, is not counted good. In Macedonie the manner is to burne the male Larch, but the roots onely of the female for to draw out pitch. *Theopompus* wrate, that there is found in the territorie of the Apolloniates, a kind of minerall pitch, called Piſſaſphaltum, nothing inferiour in goodneſſe to the Macedonian.

*Plin. 20.

The beſt pitch in all countries, is that which is gathered from trees, ſtanding upon the North wind, and in places expoſed to the Sunne-ſhine. As for that which commeth from ſhadowie places, it is more unpleaſant to the eie, and carieth beſides a ſtrong and ſtinking ſavour. If it be a cold and hard winter, the pitch then made is the worſe, there is alſo leſſe ſtore of it, and nothing C is it ſo well coloured. Some are of opinion, That the pitch iſſueth in more abundance out of trees in the mountaines, alſo that it is better coloured, ſweeter in taſt, more pleaſant alſo in ſmell, namely, while it is raw pitch-roſin, and as it runneth from the tree: but if it be boiled, it yeeldeth leſſe plentie of pitch than that which commeth of trees in the plaine, and runneth all into a thin liquor in manner of whey, yea, & the very trees themſelves are ſmaller. But both the one and the other, as well the mountaine pines and pitch-trees, as thoſe of the plaines, yeeld not ſo much pitch in a faire and drie ſeaſon, as when the weather is rainie and full of clouds. Moreover, ſome there be of theſe trees that yeeld forth fruit (which is their roſin) the very ſame yeare that immediately followeth their inciſion; others, two yeares after; yea, and ſome again in the third yeare. As for the inciſion or open wound that is made, it filleth up with roſin: for neither dooth it ſou- D der or unite in manner of a skar, ne yet cloſeth the barke againe: for in this tree, being once devided it will never come together and meet.

Among theſe trees, ſome have reckoned one kind by it ſelfe named Sapium, becauſe it is replanted and groweth of ſome of the ſions or imps of the ſaid trees, in manner as hath been ſhewed before in our treatiſe of nut-kernels. The nether parts of which tree they call Teda [i. Torch-wood:] whereas indeed this tree is no other than the Pitch-tree, brought to a more mild and gentle nature by tranſplanting. As for that which the Latines call Sapinus, it is nothing elſe but the wood or timber of theſe kind of trees, being hewed or cut downe, as we will *hereafter declare in place convenient.

*Chap. 39 of this booke.

E

Chap. xiii.

& *Of the Aſh, foure kinds thereof.*

THere be many trees beſides that Nature hath brought forth, onely for their wood and timber: and among them the Aſh, which of all others, groweth moſt plenteouſly in every place. A tall tree this is, and groweth round, bearing leaves ſet in manner of feathers or wings; much ennobled by the praiſe and commendation that the Poet *Homer* giveth it, as alſo for the ſpeare or launce of *Achilles*, made thereof. And in very truth, the wood ſerveth right well for many uſes. As for the timber of the Aſh, growing upon the forreſt Ida in Troas, it is ſo like the Citron-wood, that when the bark is off, a man may hardly diſcern the one from the other, in- F ſomuch, as the merchants and chapmen are deceived therewith.

The Greekes have made two kinds of the Aſh: the one runneth up tall and even without a knot: the other is lower, more tough and hard, and withall, of a more brown and duskiſh colour: and the leaves reſemble the Lawrell. In Macedonie they have an Aſh, which they call Bumelia, which of all other is the talleſt and biggeſt, the wood wherof is moſt pliable and bending. Others

have

have put a difference betweene Ashes, according to the places: for that of the plaine and champion countrey, hath a more curled or frisled graine than the other of the mountaines, but contrariwise, the wood of this is more compact and harder than the other. The leaves of this tree, according to the Greekes, are hurtfull, venomous, and deadly to Horses, Mules, and such labouring garrons; but otherwise to beasts that chew cud, they be harmelesse. Howbeit, in Italie, if horses, &c. doe brouse of the leaves, they take no harme thereby. Moreover, they be excellent good, and nothing so soveraigne can be found against the poyson of serpents, if the juice thereof bee pressed forth, & given to drinke; or to cure old ulcers, if they be applied and laid thereto in manner of a cataplaster: nay, so forcible is their vertue, that a serpent dare not come neare the shaddow of that tree, either morning or evening, notwithstanding at those times it reacheth farthest; you may be sure then they will not approch the tree it selfe, by a great way. And this am I able to deliver by the experience which I have seene, that if a man doe make a round circle with the leaves thereof, and environ therewith a serpent and fire together within, the serpent will chuse rather to goe into the fire, than to flie from it to the leaves of the ash. A wonderfull goodnesse of dame Nature, that the Ash doth bloome and flourish alwaies before that serpents come abroad; and never sheddeth leaves, but continueth green, untill they be retired into their holes, and hidden within the ground.

Chap. xiiii.

Of the Line or Linden tree, two sorts thereof.

GReat difference there is every way between the male and female Linden tree: for, the wood of the male is hard and knottie, of a redder colour also, and more odoriferous than the female. The barke moreover is thicker, and when it is plucked from the tree, it is stiffe, and will not bend. It beareth neither seed nor flower, as the female doth: which also is rounder and bigger in bodie, and the wood is whiter and more faire and beautifull by farre than is the male. A strange thing it is to consider, that there is no living creature in the world will touch the fruit of the Linden tree, and yet the juice both of leafe and barke is sweet ynough. Between the barke and the wood of this tree there bee thin pellicles or skins lying in many folds together, whereof are made bands and cords called Bazen ropes. The finest of these pellicles or membranes served in old time for to make the labels and ribbands belonging to chaplets, and it was reputed a great honour to weare such. The timber of the Linden or Tillet tree will never be worme-eaten. *The tree it selfe is nothing tall, but of a meane height, howbeit the wood is very commodious.

* *Plinie* herein is deceived. For the Line-tree with us, is cõparable to the highest Okes in talnesse.

Chap. xv.

Ten kinds of the Maple tree.

THe Maple in bignesse is much about the Linden tree: the wood of it is very fine and beautifull, in which regard, it may bee raunged in the second place, and next to the very Citron tree. Of Maples there bee many kinds: to wit, the white, and that is exceeding faire and bright indeed, growing about Piemont in Italie, beyond the river Po, and also beyond the Alps, and this is called the French Maple. A second kind there is, which hath a curled graine running to and fro with diverse spots; the more excellent worke whereof, resembling the eies in the Peacockes taile, thereupon tooke also the name. And for this rare and singular wood, the countries of Istria and Rhætia bee cheefe. As for that which hath a thicke and great graine, it is called Crassivenium of the Latines, and is counted to bee of a baser kind. The Greekes distinguish Maples by the diverse places where they grow. For that of the champion or plaine countrey (which they name Glinon) is white, and nothing crisped: contrariwise, the wood of the mountaine Maple is harder and more curled, and namely, the male of that sort, and therefore it is in great request for most exquisite and sumptuous workes. A third sort they name Zygia, which hath a reddish wood, and the same easie to cleave: with a barke of a swert colour, and rough in handling. Others would have it to be no Maple, but rather a tree by it selfe, and in Latine they call it Carpinus.

Chap.

A

Chap. XVI.

Of the Boſſes, Wennes, and Nodoſities, called Bruſcum and Molluſcum: Of the wild Fiſticke or Bladder nut-tree called Staphylodendron: alſo, three kinds of the Box-tree.

THe bunch or knurre in the Maple, called Bruſcum, is paſſing faire, but yet that which is named Molluſcum, excelleth it. Both the one and the other ſwell like a wen out of the Maple. As for the Bruſcum, it is curled & twined after a more crawling and winding manner: whereas the Molluſcum is ſpread with a more direct and ſtreight courſe of the graine. And certes, if there might be plankes hereof found, broad ynough to make tables, doubtleſſe they would B be eſteemed and preferred before thoſe of the Citron-wood. But now it ſerveth only for writing tables, for painels alſo and thin bords in waineſcot work, to ſet out beds heads and ſeelings, and ſuch are ſeldome ſeene. As for Bruſcum, there bee tables made of it, inclining to a blackiſh colour. Moreover, there be found in Alder trees, ſuch nodoſities; but not ſo good as thoſe, by how much the wood of the Alder it ſelfe is inferiour to the Maple, for beautie and coſtlineſſe. The male-Maples doe put forth leaves and flouriſh before the female. Yea, and thoſe which grow upon drie grounds, are ordinarily better eſteemed than thoſe of moiſt and wateriſh places, in like ſort as the Aſhes.

Beyond the Alpes there is a kind of Bladder nut-tree, whereof the wood is very like unto the C white Maple, and the name of it is Staphylodendron. It beareth certaine cods, and within the ſame, kernels in taſt like the Filberd or Hazell-nut.

Now for the Box-tree, the wood thereof is in as great requeſt as the very beſt: ſeldome hath it any graine criſped damaske wiſe, and never but about the root, the which is dudgin and full of worke. For otherwiſe the grain runneth ſtreight and even without any waving: the wood is ſad ynough and weightie: for the hardneſſe thereof, and pale yellow colour, much ſet by and right commendable. As for the tree it ſelfe, gardeners uſe to make arbours, borders, and curious works thereof. Three ſorts there be of the Box-tree: the firſt is called the French boxe, it groweth taper-wiſe, ſharpe and pointed in the top, and runneth up to a more than ordinarie height. The ſecond is altogether wild, and they name it Oleaſtrum, good for no uſe at all; and beſides carieth a ſtrong D and ſtinking ſavor with it. The third is our Italian Boxe, and ſo called. Of a ſavage kind I take this to be alſo: howbeit, by ſetting and replanting, brought to a gentle nature. This ſpreadeth and brancheth more broad: and herewith a man ſhall ſee the borders and partitions of quarters in a garden, growing thicke and greene all the year long, and kept orderly with cutting and clipping. Great ſtore of Box-trees are to be ſeene upon the Pyrenæan hils, the Cytorian mountaines, and the whole Berecynthian tract. The thickeſt and biggeſt Box-trees be in Corſica, and they beare a lovely and amiable flower, which is the cauſe, that the honie of that Iſland is ſo bitter. There is not a beaſt that will eat the fruit or graine thereof. The Boxes of Olympus in Macedonie, are more ſlender than the reſt, and but low of growth. This tree loveth cold grounds, yet lying upon the Sunne. The wood is as hard to burne as yron: it will neither flame or burne cleare it ſelfe, nor E ſerve to make charcole of.

Chap. XVII.

Of the Elme, foure kinds.

BEtween theſe wild trees aboveſaid, and thoſe that beare fruit, the Elme is reckoned of a middle nature, in regard of the wood and timber that it dooth affoord, as alſo of the friendſhip and acquaintaince that it hath with Vines. The Greekes acknowledge two ſorts thereof: namely, the one of the mountaines, which is the taller and bigger: and the other of the plaines and champion; which is the rather more like a ſhrub, the branches that it ſhooteth foorth are ſo F ſmall and ſlender. In Italie men hold the Elmes about Atinum to bee the talleſt, and of thoſe they preferre them which grow in drie grounds, and have no water comming to them, before thoſe by river ſides. A ſecond ſort of them, which are not all out ſo great, they call the French Elmes. The third kind be Italian Elmes, thicker growne with leaves than the reſt, and thoſe proceeding in greater number from one ſtemme. In the fourth place bee raunged the wild Elmes.

The

The Atinian Elmes aboveſaid beare no Samara (for ſo they call the ſeed or graine of the Elme.) All the kind of them are planted of ſets taken from the roots, whereas others come of ſeeds. G

Chap. xviii.

The nature of trees, as touching the place where they grow.

HAving thus diſcourſed in particular of the moſt famous and noble trees that are. I thinke it not amiſſe to ſay ſomewhat of their natures in generall. And firſt to begin with the mountain high countries: the Cedar, the Larch, and the Torch-tree love to grow among the hils; like as all the reſt that engender roſin: ſemblably, the Holly, the Boxe-tree, the Maſt-holme, the Iuniper, the Terebinth, the Poplar, the wild Aſh Ornus, the Cornell tree, and the Carpin. Vpon the great hill Apennine there is a ſhrub named Cotinus, with a red or purple wood, moſt excellent for inlaid workes in Marquettrie. As for Firres, the wild hard Okes (Robora) Cheſtnut-trees, Lindens, Maſt-holmes, and Cornell trees, they can away with hils and valleies indifferently. The Maple, the Aſh, the Servis tree, the Linden and the Cherry-tree, delight in the mountaines neare to waters. Lightly a man ſhall not ſee upon any hill, Plum-trees, Pomgranate trees, wild Olives, Walnut-trees, Mulberrie trees, and Elders. And yet the Cornell tree, the Hazell, the common Oke, the wild Aſh, the Maple, the ordinarie Aſh, the Beech, and the Carpin, are many times found to come downe into the plaines: like as the Elme, the Apple tree, the Peare tree, the Bay tree, the Myrtle, the Bloud ſhrubs, the Holme, and the Broome (which naturally is ſo good for to die clothes) doe as often climbe up the mountaines. The Servis tree gladly groweth in cold places: ſo doth the Birch, and more willingly of the twaine. This is a tree which is meere French, and came firſt out of Fraunce: it ſheweth wonderfull white, and hath as fine and ſmall branches or twigs, which are ſo terrible to the offenders, as wherewith the Magiſtrats rods are made for to execute juſtice. And yet the wood of this tree is paſſing good for hoopes, ſo pliable it is & eaſie to bend: the twigs thereof ſerve alſo for to make paniers and baskets. In France they uſe to boile the wood, and thereof draw a glutinous and clammie ſlime in manner of Bitumen. In the ſame quarters there loveth to grow for companie the white thorn, which in old time they were wont to burne for torches at weddings, and it was thought to be the moſt fortunat and luckie light that could be deviſed, becauſe (as *Maſſurius* doth report) the Romane ſheepheards and heardmen who raviſhed the Sabine maidens, were furniſhed every one with a branch thereof, to make them torches. But now adaies the Carpine and the Hazell are commonly uſed for ſuch nuptiall lights. The Cypreſſe, Walnut, Cheſtnut-trees, and the Laburnum, cannot in any wiſe abide waters. This laſt named, is a tree proper unto the Alpes, not commonly knowne: the wood thereof is hard and white: it beareth a bloſſome of a cubite long, but Bees will not ſettle upon it. The plant likewiſe called Iovis Barba, ſo handſome to bee cut in arbours and garden workes, which groweth ſo thicke and round withall, full of leaves, and thoſe of a ſilver colour, hateth waterie places. Contrariwiſe, Willowes, Alders, Poplars, & Oiſiars, and the Privet which is ſo good for to make dice, will not grow well and proſper but in moiſt grounds. Alſo the Vacinia or Whortles, ſet and ſowed in Italie for the fowlers to catch birds withall; but in France for the purple colour, wherewith they uſe to die cloths for their ſervants and ſlaves. H I K L

To conclude, this is a generall rule, What trees ſoever will grow indifferently as well upon hils as plaines, ariſe to be taller, bigger, & carie a fairer head to ſee to in the low champion grounds: but timber is better, and carieth a more beautifull graine upon the mountaines, except onely Apple-trees and Pyrries.

Chap. xix.

A diviſion of trees, according to their generall kinds.

MOreover, ſome trees looſe their leaves: others continue alwaies greene. And yet there is another difference of trees before this, and wherupon this dependeth. For trees there be which are altogether wild & ſavage: there be again which are more gentle and civile: and theſe names me thinks are very apt to diſtinguiſh them. Thoſe trees therfore which are ſo kind and familiar unto us, as to ſerve our turns either with their fruit which they bear, or their ſhade which they yeeld, or any other vertue or propertie that they have, may very aptly and fitly be called civile and domeſticall. M

Chap.

A

Chap. xx.

Of trees that never ſhed their leaves: alſo of Rhododendron.

AMong theſe trees and plants which are of the gentle kind, the Olive, the Lawrell, the Date tree, Myrtle, Cypreſſe, Pines, Ivie, and the Oleander, looſe not their leaves. As for the Oleander, although it bee called the Sabine hearb, yet it commeth from the Greekes, as may appeare by the name Rhododendron. Some have called it Nerion, others Rhododaphne: it continueth alwaies green leafed, beareth flowers like roſes, and braunceth very thicke. Hurtfull it is and no better than poiſon, to Horſes, Aſſes, Mules, Goats, and Sheep, and yet unto man
B it ſerveth for a countrepoiſon, and cureth the venime of ſerpents.

Chap. xxi.

What trees ſhed not their leaves at all: which they be that looſe them but in part: and in what countries all trees are ever greene.

OF the wild ſort, the Firre, the Larch, the wild Pine, the Iuniper, the Cedar, the Terebinth, the Box tree, the maſt-Holme, the Holly, the Corke tree, the Yew, and the Tamariske, be greene all the yeare long. Of a middle nature betweene theſe two kinds abovenamed, are the Adrachne in Greece, and the Arbut or Strawberrie tree in all countries: for theſe looſe the
C leaves of their water-boughs, but are ever green in the head. Among the ſhrubs kind alſo, there is a certaine bramble and Cane or Reed, which is never without leaves. In the territorie of Thurium in Calabria, where ſometime ſtood the city Sybaris, within the proſpect from the ſaid cittie, there was one Oke above the reſt to be ſeene, alwaies green and full of leaves, and never began to bud new before midſummer: where by the way, I marveile not a little, that the Greeke writers delivered thus much of that tree in writing, and our countrymen afterwards have not written a word thereof. But true it is, that great power there is in the climat: inſomuch as about Memphis in Ægypt, and Elephantine in the territorie Thebais, there is not a tree (not ſo much as the verie vine) that ſheddeth leaves.

D

Chap. xxii.

The nature of ſuch leaves as fall from trees: and what leaves they be that chaunge colour.

ALl trees without the raunge of thoſe before rehearſed (for to reckon them up by name particularly were a long and tedious peece of worke) doe looſe their leaves in winter. And verily this hath been found and obſerved by experience, that no leaves do fade & wither, but ſuch as be thin, broad, & ſoft. As for ſuch as fall not from the tree, they be commonly thicke skinned, hard, and narrow: and therefore this is a falſe principle and poſition which ſome hold, That no trees doe ſhed their leaves which have in them a fattie ſap or oleous humiditie: for who
E could ever perceive any ſuch thing in the maſt-Holme? a drier tree there is not, and yet it holdeth alwaies green. *Timæus* (the great Aſtrologer and Mathematician) is of opinion, that when the ſunne is in the ſigne Scorpio, he cauſeth leaves to fall, by a certain venomous and poiſoned infection of the aire, proceeding from the influence of that maligne conſtellation. But if that were true, we may well and juſtly marveile, why the ſame cauſe ſhould not be effectuall likewiſe in all other trees. Moreover, we ſee that moſt trees doe let fall their leaves in Autumne: & ſome are longer ere they ſhed, and continue greene untill winter bee come. Neither is the timely or
F flow fall of the leafe long of the early or late budding; for wee ſee ſome that burgen and ſhoot out their ſpring with the firſt, and yet with the laſt ſhed their leaves and become naked: as namely the Almond trees, Aſhes, and Elders. And contrariwiſe, the Mulberrie tree putteth foorth leaves with the lateſt, and is one of them that ſooneſt ſheddeth them againe. But the cauſe hereof lyeth much in the nature of the ſoile: for the trees that grow upon a leane, drie, and hungrie ground, doe ſooner caſt leafe than others: alſo old trees become bare before younger: and many of them alſo looſe their leaves ere that their fruit be fully ripe: for in the Fig-tree, that commeth and beareth late, in the winter Pyrrie, and Pomegranate, a man ſhall ſee in the latter end

of the yeare, fruit only and no leaves upon the tree. Now as touching those trees that continue ever greene, you must not thinke that they keepe still the same leaves, for as new come, the old wither and fall away: which happeneth commonly in mid-Iune about the summer Sun-stead. For the most part, the leaves in every kind of tree, doe hold one and the same colour, and continue uniforme, save those of the Poplar, Ivie, and Croton, which wee said was called also Cici, [*i.* Ricinus, or Palma Christi.] G

Chap. xxiii.

Three sorts of Poplar: and what leaves they be that chaunge their shape and figure.

H

OF Poplars, there be found three sundrie kinds, to wit, the white, the black, and that which is named * Lybica, or the Poplar of Guynee: this hath least leaves, and those of all other blackest; but most commendable they are for the fungous meazles (as it were) that come forth thereof. As for the white Poplar leafe, it is of two colours; the upper side is whitish, the nether part greene. Both of it, and of the black Poplar, the leaves when they be young, are as round as if they were drawne with a paire of compasses, like unto those of Croton before-named: but as they grow elder, they run out into certaine angles or corners. Contrariwise, the Ivie leaves, at the first be cornered, and afterwards become round. All Poplar leaves are full of downe: as for the white Poplar (which is fuller of leaves than the rest) the said down flieth away in the aire, like to mossie chats or thistle-downe. The leaves of Pomegranats and Almond trees stand much upon the red colour. But very straunge it is and wonderfull which happeneth to the Elme, Tillet or Linden, the Olive tree, Aspe, and Sallow or Willow: for their leaves after midsummer, turne about upside downe, in such sort, as there is not a more certaine argument that the sunne is entred Cancer, and returneth from the South point or summer Tropicke, than to see those leaves so turned. I

* Taken by some, to be our Aspe.

Chap. xxiiii.

What leaves they be that use to turne every yeere. Of Palme or Date tree leaves, how they are to be ordered and used. Also certaine wonderfull observations about leaves.

K

THere is a certain generall and universall diversitie and difference observed in the very leafe: for commonly the upper side which is from the ground, is of greene grasse colour, more smooth also and polished. The outside or nether part of the leafe, hath in it certain strings, sinewes or veines, brawnes and joynts, bearing out like as in the backe-part of a mans hand: but the inside, cuts or lines, in manner of the palme of ones hand. The leaves of the Olive, are on the upper part whiter, and lesse smooth; and likewise of the Ivie. But the leaves of all trees for the most part, every day doe turne and lie open to the Sunne, as desirous to have the inner side warmed therewith. The outward or nether side toward the ground of all leaves, hath a certaine hoarie downe more or lesse here in Italy, but in other countries so much there is of it, that it serveth the turne for wooll and cotton. In the East parts of the world, they make good cordage and strong ropes of Date tree leaves (as we have said before;) and the same are better, and serve longer within, than without. With us these Date leaves are pulled from the tree in the spring, whiles they be whole and entire; for the better are they which are not cloven or divided. Beeing thus plucked, they are laid a drying within-house foure daies togither: after that, they be spred abroad and displaied open to the sunne, and left without dores to take all weathers both day and night, and to bee bleached, untill they be drie and white: which done, they be slived and slit for cord-worke. But to come againe unto other leaves, the broadest are upon the Figge-tree, the Vine, and the Plane; the narrowest, upon the Myrtle, Pomegranat, and Olive: as for those of the Pine and Cedar, they be hairie. The Holly leaves, and all the kinds of Holme, are set with sharpe pricks. As for the Iuniper, in stead of leafe it hath a very pointed thorne. The Cypresse and Tamariske carrie fleshie leaves: those of the Alder be most thicke of all other. The Reed and the Willow have long leaves: the Date tree hath them double. The leaves of the Peare tree are round, but of the Apple tree pointed; of the Ivie cornered; of the Plane tree divided into certain incisions; of the Pitch tree and the Firre cut in, after the manner of comb-teeth; of the wild L

M

hard

A hard Oke, waved and indented round about the edges; of the brier and bramble, sharpe like thornes all the skin over. Of some, they be stinging and biting, as of Nettles: of others, readie to pricke like pins or needles, as of the Pine, the Pitch tree, the Larch, the Firre, the Cedar, and all the sorts of Holly. The leaves of the Olive tree, and the mast-Holme, hang by a short stele, the Vine leaves by a long. The Poplar or Aspen leaves doe shake and tremble, and they alone keepe a whistling and rustling noise one with another. Moreover, in the very fruit it selfe, and namely in a certaine kind of Apples, ye shall have small leaves breake out of the very sides in the mids, in some single, in others double and two togither. Furthermore, there bee trees that have their leaves comming forth about their boughs and branches, others at the very end and shoot of the twig: as for the wild oke Robur, it putteth leaves forth of the trunke and maine stocke. Over and
B besides, the leaves grow thicker or thinner in some than in others; but alwaies the broad and large leaves, are more thin than others. In the Myrtle tree, the leaves grow in order by rankes; those of the Box tree turne hollow; but in the Apple trees they are set in no order at all. In Pyrries and Apple trees both, yee shall see ordinarily many leaves put forth at one bud, hanging at one and the same taile. The Elme, and the Tree-trifolie, are full of small and little braunches. *Cato* addeth moreover and saith, That such as fall from the Poplar or the Oke, may bee given as fodder to beasts, but he willeth that they be not over drie: and he saith expressely, that for kine and oxen, Fig leaves, mast-Holme leaves, and Ivie, are good fodder: yea and such kind of beasts may well brouse and feed of Reed leaves and Bay leaves. Finally, the Service tree looseth her leaves all at once, others shed them by little and little one after another. And thus much for the leaves
C of trees.

Chap. xxv.

The order and course observed in Nature as touching plants and trees, in their conception, flowring, budding, knotting, and fructifying. Also in what order they put forth their blossoms.

THe manner and order of Nature yeare by yeare, holdeth in this wise: first, trees and plants doe conceive by the means of the Westerne wind Favonius, which commonly beginneth to blow about sixe daies before the Ides of Februarie: for this wind is in stead of an hus-
D band to all things that grow out of the earth, and of it they desire naturally to be conceived, like as the Mares in Spaine, of which we have written heretofore. This wind is that spirit of generation which doth breath life into all the world; which the Latines call thereupon Favonius, *à favendo*, [*i.* of cherishing and nourishing every thing] as some have thought. It bloweth directly from the Æquinoctiall Sun-setting, and evermore beginneth the Spring. This time, our rusticall peasants call the Seasoning, when as Nature seemeth to goe proud or assaut, and is in the rut and furious rage of love, desirous to conceive by this wind, which indeed doth vivifie and quicken all plants and seeds sowne in the ground. Now all of them conceive not at once, but in sundrie daies: for some are presently sped in a moment, like as living creatures: others are not so hastie to conceive, but long it is first ere they retaine, and as long againe before their vitall seed
E doth put forth; and this is thereupon called their budding time. Now are they said to bring forth and be delivered, when in the Spring they bloome, and that blossome breaketh foorth of certaine matrices or ventricles. After this, they become nources all the while they cherish & bring up the fruit: and this time also the Latins call Germinatio, [*i.* the breeding season.] When trees are full of blossomes, it is a signe that the Spring is at the heigth, and the yeare become new againe. The blossome, is the very joy of trees, and therein standeth their chiefe felicitie: then they shew themselves fresh and new, as if they were not the same; then be they in their gay coats; then it seemeth they strive avie one with another in varietie of colours, which of them should excell and exceed in beautifull hew. But this is not generall, for many of them are denied this
F pleasure, and enjoy not this delight; for all trees blossome not: some are of an heavie and sad countenance, neither cheare they at the comming of this new season and gladsome Spring: for the mast-Holme, the Pitch tree, the Larch, and the Pine, doe not bloome at all, they are not arrayed in their robes, they have not their liveries of divers colours to fore-signifie (as messengers and vantcourriers) the arrivall of the new yeare, or to welcome and solemnize the birth of new fruits. The Figge trees likewise both tame and wild, make no shew of flowers: for they are

not to soone bloomed (if they bloome at all) but they bring forth their fruit. And a wonderfull G
thing it is to see what abortive fruit these Figge-trees have, and how it never commeth to ripe-
nesse. Neither doe the Iunipers bloome at all. And yet some writers there be who make two
kinds thereof: and they say, that the one doth flower, and beare no fruit: as for the other which
doth not blossome, it brings forth fruit upon fruit, and berie upon berie, which hang two yeers
upon the tree before they come to maturitie. But this is false, for in verie truth all Iunipers with-
out exception, have evermore a sad looke, and at no time shew merie. And this is the case and
condition verily of many a man, whose fortune is never in the flower nor maketh any outward
shew to the world. Howbeit there is not a tree but it buddeth, even those that never blossome:
And herein the diversitie of the soile is of great power: for in one and the same kind, such as grow
in marish grounds, do shoot and spring first; next to them, those of the plains; and last of all they H
of the woods & forrests. And generally the wild Pyrries growing in woods do bud later than any
other. At the first comming of the westerne wind Favonius, the Corneill tree doth bud; next to
it, the Bay; and somwhat before mid-march or the spring Æquinoctiall, the Tillet or Linden,
and the Maple. The Poplar, Elme, Willow, Alder, and Filberds or Hazell nut trees, bud with the
first. The Palme also maketh hast and is loth to come behind. All the rest at the point and prime
Ex Theophrast. de his plantis. of the spring, namely the Holly, the Terebinth, the Paliurus, the Cheston, and the Walnut-trees,
or Mast-trees. Appletrees are late ere they bud, but the Corke tree longest of any other. Trees
there be that put forth bud upon bud, by reason that either the soile is exceeding battill and fat,
or else the weather fair and pleasant: and this hapneth more to be seen in the blades of corne.
But trees if they happen to be over ranck in new shoots and buds, they wax wearie and grow out
of heart. I

Moreover, some trees there be that naturally doe sprout at other seasons besides the spring,
according to the influence of certaine starres, whereof the reason shall be rendered more con-
venient, in the third booke next ensuing after this. Meane time this would bee observed, That
the winter spring of trees is about the rising of the Ægle-star: the Summer budding at the rising
of the Dog-star: and a third, when the star Arcturus is up. And for the latter twaine, some would
have them to be common verily to all trees, but most evidently seen, in Fig-trees, Vines, Pom-
granate trees: and they yeeld a cause, For that in Thessalie and Macedonie the Fig tree about
these times putteth forth most plenteously: & in Ægypt this reason is to be seen most apparant-
ly. As for all other trees, certain it is, that when they begin once to bud, they hold on and shoot
forward continually without intermission. The wild Oke, the Fir, and the Larch tree, have their K
severall shoots in one yeere, and spring at three sundry times, giving over betweene whiles; and
therefore they put forth their sprouts between the skales of their barks: a thing usually hapning
to all trees in their budding & breeding time; for after they be once conceived, their rind or bark
doth burst withall. Now their first budding is in the prime and beginning of the spring, and con-
tinueth much about fifteene dayes. They bud a second time in the moneth of May when the sun
passeth through the sign Gemini: by which time it is evidently to be seen, how the bud heads that
came first, are driven and thrust up higher by those that follow after; and that appeareth more
plainly by the encrease of the knots and joynts. As for the third budding, it is very short, name-
* Solstitium. ly at * midsommer, and lasteth not above a seven-night: and even then also may a man perceive L
manifestly by the knots and joynts of the shoots how much they are put forth and grown. The
Vine alone shooteth twice, to wit, when she first beginneth to burgen and put forth a grape; and
a second time, when she doth forme and digest or concoct the same. As for those trees that blos-
some not, they have no more to do but only to bring forth their fruit, and so proceed to ripen it.
Now there are some trees, which no sooner bud, but they shew also a blossome; and yet as hasty
as they be that way, they take their leisure afterwards, and long it is ere their fruit come to be ripe:
and such are the Vines. Others againe bee as backward and slow both to bud and blossome; but
they make speed to ripen their fruit, as the Mulberie tree, which of civile and domesticall trees,
is the last that doth bud, and never before all the cold weather is past; and therefore she is called
the wisest tree of all others: but after that she begins once to put forth buds, she dispatcheth her M
busines out of hand, insomuch as in one night she hath done; and that with such a force, that in
the breaking forth a man may evidently heare a noise. Of those trees which do conceive in win-
ter, about the rising of the Ægle-star, (as we have sayd before) the Almond tree is the first that
doth blossome in the moneth of Ianuarie, and by March the Almond is ripe. The next that

blossome

A blossome after it, be the Peach-plum trees of Armenia, then the Injube trees called Tuberes, and the Abricots. As touching those former, they be meere straungers, but these Abricots are forced by Art and industrie of man. As for wild and savage trees, by course of nature the Elder flowreth first, and hath of all other most plentie of pith or marow within, wheras the male Corneil hath none at all. But of domesticall and civile trees, the Apple tree begin neth to blossome, and soone after the Pyrry, Cherrie tree, and Plum tree, insomuch as they seeme all to flowre together. Next to them, is the Lawrell; anon after it, the Cypresse; and then the Pomegranat, and the Fig tree: Vines and Olive trees doe but then burgen and bud, when those other be in their flowre: for in truth they conceive late, namely, at the rising of the Vergiliæ or Broodhen; for this is the proper star to the influence whereof these trees be subject: and it is Iune first and the sum-
B mer Sun-stead, before the vine doth bloome; and so it is with the Olive tree, but that it commeth somewhat later. All trees be seven daies at the least in their blossoming; and some are longer ere they give over, but none passe a fortnight: and done they have ever by the eighth day before the Ides of Iuly, which are the fore-runners of the Etesian winds. Finally, some trees there are which doe not knit or shew their fruit immediatly upon their blooming.

Chap. xxvii.

Of the Corneil tree. Also, what is the proper time wherein every tree beareth: which trees be they that beare not, and which be reputed unluckie. Also of those trees which soonest loose their fruit. Last of
C *all, what trees shew fruit before leafe.*

AS for the Corneil tree, it is about midsummer or the summer Sun-stead, before it putteth forth any fruit, which at first is white, afterwards red as bloud. But the female of this kind beareth after Autumne, sowre berries, and such as no beast will abide to tast. The wood thereof also is spungeous, hollow, and good for nothing; whereas that of the male is counted among the hardest that be: so great difference there is in trees of one and the same kind. Moreover, the Terebinth, Maple, and Ash, yeeld their fruit or seed in harvest time: Walnuts, Apples, and Peares (unlesse they be some winter fruits, or of the hastie kind) ordinarily are readie to bee gathered in the Autumne. All mast-trees be later ere they render their fruit, to wit, about the go-
D ing downe of the Vergiliæ or beginning of the winter, save onely the Æsculus, which passeth not the Autumne. As for certain Apple trees and Peare trees both, as also the Corke tree, their fruit is not to be gathered before winter begin. The Firre putteth foorth a blossome of a yellow colour like Saffron, about mid-Iune or the summer sun-stead; but the Broodhen-starre is downe before the fruit be ripe. The Pine, and Pitch tree, do bud before the Firre some fifteen daies, or thereabout; but it is winter first, and the foresaid Vergiliæ or Brood-hen is likewise set, before their fruit is ripe. Citron trees, Iunipers, and mast-Holmes, are counted trees that beare all the yeare long, and the old fruits of the former yeare tarieth on the tree untill new come, and they hang both togither. But above all other trees, the Pine is a wonder in nature; for a man shall ever find upon it some of the fruit readie to be ripe; and some againe that will remaine unto the
E next yeare, and the third yeare before it will be readie: and there is not another tree that is more forward and greedie (as it were) to put foorth it selfe, and give greater hope of encrease, than it doth: for look in what moneth soever the Pine-nuts are gathered from the tree, in the very same others are in good forwardnesse of ripening; and in such sort she ordereth the matter, that every moneth a man shall have ripe fruit upon her. Those Pine-apples or nuts which cleave and open upon the tree, bee called Zamiæ; and well may they be so named, for unlesse they be plucked, they hurt and corrupt the rest. The only trees that beare no fruit at all, that is to say, not so much as seed, are these; the Tamariske, good for nothing but to make beesoms of; the Poplar, Alder, Atinian Elme, and the Alaternus, which hath leaves resembling the Holme, and parsly the Olive. As for such trees which neither at any time are set or planted, nor yet beare fruit, they bee
F holden for unfortunate, accursed, and condemned, in such sort, as there is no use of them in any sacrifice or religious service. *Cremutius* writeth, That the (Almond) tree whereon ladie *Phyllis* hanged her selfe, had never (after) greene leaves on it. Such trees as yeeld gum, after they have put forth their bud, doe cleave and open: howbeit the gum that issueth forth, never commeth to any thicknesse, untill the fruit thereof be gathered. Young trees commonly beare not, so long

as they shoot and grow. The Date tree, the Fig tree, the Almond tree, the Apple tree, and the G
Pyrrie, doe sooneſt of all other let their fruit fall before it be fully ripe. Semblably, the Pomegranate tree, which is so tender besides, that with every thicke and heavie dew, white frost, and foggie rime, she will be bitten and shed the blossom: which is the cause that folk use to bend the boughs thereof downward to the ground, that both dew and rime may sooner fall off which lighteth upon them, and otherwise would over-load and hurt them. The Pyrrie and the Almond tree cannot abide close and cloudie weather, especially if the wind be Southerly, although no raine doe fall: for in such daies, if they chaunce to blossome, they not only shed their flower, but loose their fruit new knit. But the Sallow or Withie tree, is of all other most tickliſh, & sooneſt doth forgoe the seed or chats that it beareth before it commeth to any ripeneſſe: for which cause, called it is of *Homer* * Loose-fruit, or Spill-fruit. Howbeit the age ensuing (naught as it was) hath H
interpreted that Epithet of his, in another sense, according to the wicked experience they had of it, whereby it was found, that the seed thereof causeth barrainneſſe in women, and hindreth conception. But in this regard, Nature also hath done well to prevent this mischiefe and inconvenience, in that shee hath not been very carefull to preserve the seed: and yet for the maintenance of the whole kind, shee hath endued it with this gift, To grow very quickly, if a man doe pricke into the ground but a cutting or twig thereof. And yet (by report) there is one Willow in Candie, and namely about the very descent of *Iupiters* cave, which is wont ordinarily to carie the graine or seed thereof untill it be full ripe, and then is it of a rough and writhen shape, of a wooden and hard substance, and withall, of the bigneſſe of a cich peaſe.

* Ὄλυνθος. *Fragiperda.*

Moreover, some trees there be that proove barraine and fruitleſſe by occasion of the imperfection of the soile and territorie where they grow: and namely in the Isle Paros, there is a whole wood or coppise that usually is lopt and cut, but it never beareth any fruit. The Peach trees in the Island Rhodos blossome only, and otherwise are fruitleſſe. Over and besides, this difference of trees (that some be fruitfull and others barrain) ariseth of the sex also; for commonly the males beare not: howsoever some affirme cleane contrarie, and say, They are the male onely which be fruitfull, and the female barraine. Furthermore, it falleth out many times that trees be fruitleſſe, either because they grow too thicke one by another, or els are overcharged and too ranke with boughs and braunches: but of such as doe beare, some bring forth their fruit both at the sides, and also at the very tips and ends of their braunches; as the Peare tree, Pomegranat tree, Figge tree, and Myrtle. As for others, they are of the nature of corne and pulse; for the one groweth K
in the eare or spike alone, the other by the sides, and not otherwise. The Date tree onely (as hath been said before) conteineth fruit within certain pellicles, and the same hangeth downe in clusters after the manner of grapes. Other trees beare their fruit under the leafe for their safeguard and defence, except the Fig tree, which hath her Figs above the leafe, because it is so large and overshadowie. Moreover, the leafe of the Figge tree commeth forth after the Figge. One notable thing is reported of a kind of Figge trees, in Cilicia, Cyprus, and Hellas, to wit, that they have this propertie singular by themselves, To bring foorth their perfect Figs under leafe, and their greene abortive Figs that come to no proofe, after the leafe. The Figge tree beareth moreover certaine hastie Figs, which the Athenians call Prodromos, *i.* vant-courriers or forerunners, because they be long ripe before others. The Laconian Figge trees bring the faireſt and L
greateſt Figs.

Chap. xxvii.

Of trees that beare twice and thrice in one yeere. Also what trees sooneſt wax old: and of their ages.

IN the same countries above-named, there be Figge trees also that beare Figges twice in one yeare. And in the Island Cea, the wild Figge trees beare thrice in the same yeare: for the second encreaſe is put foorth upon the first, and the third upon the second: and by this third fruit, the Figges of the tame Figge tree receive their maturitie by way of caprification: and M
those wild greene Figgs of theirs come foorth above the leafe. Moreover, there be some Pyrries and Apple trees that bring forth fruit twice in a yeere: as also there bee others of the hastie kind, which beare both Peares and Apples betimes in the yeare. There is a kind of Crab tree also or Wilding, that in like manner beareth twice a yeere; and the latter fruit is ripe presently

after

A after the middeſt of September, eſpecially in places lying well upon the Sunne. As touching Vines, there bee of them alſo, that after a ſort beare three times in the yeare, which thereupon men call Inſanas, [*i.* The mad or fooliſh Vines:] for whiles ſome of the grapes bee ripe, others begin to ſwell and waxe big, and a third ſort againe are but then in the flower. *M. Varro* writeth, That in Smyrna by the ſea ſide there was a Vine which bare fruit twice a yeare, as alſo an Apple-tree in the tetritorie of Conſentia. But this is an ordinarie thing throughout all the countrey about Tacapa in Affrica, and never is it ſeene otherwiſe there, ſo fertile is the ſoile; but thereof will we write more at large hereafter in another place. As for the Cypreſſe trees, they faile not but come with fruit thrice in one yeare: and their Berries bee gathered in Ianuarie, May, and September, and all of a diverſe bigneſſe, one from the other. Over and be-
B ſides, the very trees themſelves are not laden with fruit after one and the ſame manner: for the Arbut or Strawberrie tree is more plenteous in the head, & toward the top: the Oke, the Walnut-tree, Fig-tree (and namely that which beareth the unſavourie great figges Mariſcæ) are more fruitfull beneath. Generally, all trees the elder they are, the ſooner they beare and make more haſt to ripen their fruit; the rather alſo, if they grow in a ground leane and expoſed to the Sun. Contrariwiſe, trees that bee wild are later in bearing than other: and ſome of them never yeeld fruit fully ripe. Moreover, ſuch trees under which the ground is tilled and laid hollow, have their fruit ſooner ripe, and are more fruitfull withall, than thoſe that are neglected and not looked unto. Beſides all this, there is a difference in trees as touching bearing their fruit, according to the age:
C for the Almond tree and the Pyrrie are moſt fertile when they be old, as alſo Maſt trees, & a certaine kind of Fig-trees. All others, the younger they are, the more fruitfull they be, howbeit, later it is ere their fruit bee ripe: a thing moſt plainely to bee obſerved in Vines. For the better wine commeth from the elder Vines: but more plentie from the younger. As for the Apple-tree, it becommeth of all other ſooneſt old, and in that age the fruit is nothing ſo good as in youth: for both leſſer be the Apples, and alſo more worme-eaten, inſomuch as the very worms will breed in them upon the tree. The Fig is the fruit alone of all trees, that needeth ſome helpe of *Phyſick to ripen. And this may be noted for a ſtrange and miraculous thing in them, That the latter figs be in more price than the haſtie and early ripe, and that there ſhould bee more reckoning made of prepoſterous and artificiall things beſide the courſe of kind, than of the naturall. Alſo, this is a generall rule, Whatſoever tree is exceeding fruitfull, and beareth moſt, the ſame continueth
D leaſt while, and ſoone waxeth old. Yea, and ſome of them are to be ſeene for to die right out, and that very quickly, becauſe they enjoied ſo favourable a ſeaſon, to cauſe them ſo to ſpend themſelves with bearing; as we may marke moſt eaſily in Vines.

*To wit, by caprification.

Chap. xxviii.

Of the Mulberrie tree.

COntrariwiſe, the Mulberrie tree laſteth long, and is very late ere it ſeemeth old. For why? it is not given greatly to beare fruit, neither is overloden with Mulberries. To conclude, looke what trees have a curled graine in the wood, as the Maple, Date-tree, and Poplar,
E they continue a long time before they decay. And in one word, ſuch as have their roots digged or delved often and laid bare about, are not long lived, but ſoone age and decay.

Chap. xxix.

Of wild trees.

AS for wild trees, they endure longeſt of all others. And generally, as careſull tending and looking to trees, maketh them more fertile: ſo there is nothing ſooner bringeth age upon them, than fruitfulneſſe and much bearing. Hereupon it is likewiſe, that ſuch trees both bud and alſo bloſſome ſooner than others, yea, and ordinarily their fruit is ripe before the reſt: in
F regard whereof, they are more ſubject to the injurie of the time and the weather, which cauſeth alſo divers and ſundrie infirmities. Moreover, as wee have ſaid alreadie in the chapter of Maſt-trees, there be many that bring forth fruits of different ſorts: among which may be reckoned the Lawrell, with her variable flowers and Berries growing ſo thicke; and principally the barren of that kind, which beareth nothing elſe, and therefore is eſteemed of ſome the male. The Hazels alſo

so and Filbard trees, besides, their nuts doe carie certaine chats with a callous substance of skales joined one within another, but good for nothing. G

Chap. xxx.

Of the Box-tree: the Greeke Beane or the Lotus.

All this *Theophrastus* reporteth of Ilex, and not of Buxus.

AMong these is to bee raunged the Box-tree, which bringeth forth the most varietie of all others. For it putteth forth a seed of her owne, also, a graine which they call Carthegon: besides, on the North side Misselto, and on the South Hyphear: whereof wee will write anone more at large: so that otherwhiles a man shall find foure divers things upon the Boxe all together. H

Moreover of trees, some be simple or single, to wit, such as from the root have one trunke or bodie, and no more, and yet many boughes and braunches; as the Olive, Fig-tree, and the Vine: others be of a shrubs kind, and put forth many shoots from the root besides the maine trunke, as the Rhamne-thorne Paliurus, and the Myrtle. In like manner the Hazell nut-tree. Howbeit, the better is the tree and more plenteous in fruit, when it is well braunched from the bodie, and hath not those suckers from the root. Yee shall find some againe have no principall stocke at all, as we may see in a kind of Boxe, and a certaine Lotus beyond sea. Others be forked in twain, yea, in five, immediately from the root: and yee shall meet with those that put up many trunkes out of the earth, but braunch not into boughes, as namely, the Elders; as also with others that forke not, nor are devided at all, howbeit, they be full of armes and boughes, as the Pitch-trees. Moreover, some there be which have their boughs disposed in good order, as the Pitch-tree, Firre, or Deale: others againe be as disorderly, as the Oke, Apple-tree, and Pyrrie. As for the Firre verily, where it is devided into boughs, they grow directly upright unto heaven, & spread not in breadth about the sides. But a strange and wonderous thing it is of this tree, that if it bee headed, or the tops onely of those armes cut off, the whole dieth thereupon: but if they bee lopped off close to the bodie, it continueth still alive. Nay, in case it be cut under the place where the braunches put forth, the stocke or stumpe that is left, will take no harme by it, but remaine and live: crop the head onely thereof, and the whole tree dieth. To proceed, some trees spread into armes immediately from the root, as the Elme, others branch onely toward the top, as the Pine, and the Greek Beane, which at Rome for the pleasant taste of the fruit, resembling cherries very much, although it be of a wild nature, they call Lotus. This tree is much planted about faire houses, in the court yards, especially because the boughs spread so large; for albeit the stock or bodie it selfe bee but very short and small, yet it brancheth so, as that it yeeldeth much shade: yea, and oftentimes the boughs reach to the neighbour houses. But there is not a tree againe that maintaineth this shade a lesse while: for when Winter is once come, the leaves shed, and then it admitteth the warme Sunne for it. Moreover, there is not another tree that beareth a fairer barke, nor more pleasant to the eie, nor that carieth either longer boughs, and more in number than it, or stronger: a man that seeth them, would say they were so many trees by themselves. As touching the use and commodities of this tree, the barke serveth to colour skins and leather: the root to die wooll. And as for the fruit or Apples that it beareth, they are a speciall kind by themselves: for all the world they resemble the snouts or muzzles of wild beasts, and many of the smaller sort seeme to hang to one that is bigger than the rest. I K L

As concerning boughs of trees, some are tearmed blind, because they put not forth certaine eies or chits where they should bud: which happeneth sometime by a naturall defect, when they are not of validitie to thrust out a bud; otherwhiles it is occasioned by some wrong and injurie done, namely, when they be cut off, and in the place of the cut, there groweth as it were a callous skar that dulleth the vertue of the tree. Furthermore, looke what is the nature that forked trees have in their boughs, the same hath the Vine in her eies and burgeons; the same also have canes and reeds in their joints and knots. Over and besides, all trees toward their root, and the neerest to the ground, are thicker than elsewhere. Some run up altogether in height, and therein shew their growth, as the Firre or Deale tree, the Larch, Date-tree, Cypresse, Elme, and generally all that rise up in one entire stocke, and are not devided. Of those also that branch and put out many boughes, there is a kind of Cherry-tree that is found to beare armes like beames fortie cubites long, and two foot in thickenesse square throughout the whole length. M

A

Chap. xxxi.

Of the Boughs, Barke, and Roots of trees.

There are trees, that immediatly from the root thrust out boughs and branches, as doe the Apple-trees. Some be covered with a thin rind, as the Lawrell and Line-tree: others with a thicke barke, as the Okes. In some a man shall find the barke even and smooth, as in the Apple-tree and Fig-tree: the same in others is rough and rugged, as is to bee seene in Okes and Date-trees. And ordinarily, all old trees have more riveled barkes and furrowed, than the younger. In many trees, the Barke naturally dooth breake and cleave of the owne accord, and
B namely in the Vine. From some it shaleth and falleth off, as from the Apple-tree and the Arbut. The Corke and the Poplar have a fleshie and pulpous barke: the rind of the Vine and the reed, is made in manner of a membrane or thin skin. In Chery-trees it is as slender as Paper, and runneth into rolls: but Vines, Lindens, and Firs, are clad with tunicles and coats of many folds. In some again the rind is but single, as in the Fig-tree, and the cane or reed. And thus much of Barke.

There is as great difference in the root. For the Fig-tree, the Oke, and the Plane, have great store of roots and large spurns: contrariwise, in the Apple-tree they are short and small. The Fir and Larch have one tap root and no more: for upon that one maine maister-root they rest and are founded; howbeit, many small strings and petie spurns shoot out of the sides. In the Bay-tree the roots be more grosse and unequally embossed, & likewise in the Olive, which also spreadeth
C out into many branches. But those of the Oke bee of a carnous substance: and verily, all the kind of Okes doe root deepe into the ground. Certes, if wee give credite to *Virgill*, that sort of them which are called Esculi, goe down as deepe into the earth with their roots, as they arise & mount above ground with their heads. The roots of the Apple-tree, Olive, and Cypresse, lie very ebbe, and creepe hard under the sourd of the ground. Moreover, there bee roots that runne direct and streight, as those of the Bay and Olive: there be againe that wind and turne as they goe, as those of the Fig-tree. Some are all overgrowne and full of haitie strings, as the Firre root, and many others of wild trees that grow in forrests: from which the mountainers use to plucke those fine fibres and small threds, wherwith they twist goodly faire paniers, covers for flaggons and bottels, and worke many other vessels and pretie devises. Some* writers hold opinion and have put down * namely, *Theophrastus.*
D in their bookes, that no roots goe lower into the earth, than that the Sunnes heat may pierce unto them and give them a kind warmth; the which is more or lesse, say they, according to the nature of the soile, as it is either lighter and leane, or massier, richer, and faster compact. But I take this to be a meere untruth. This is certaine that wee find in auncient writers, that a young Firre, when it was to be transplanted and set againe, had a root that went eight cubits within the earth; and yet it was not digged up all whole, but broken in the taking up, and left somewhat behind. The roots of Citron trees are biggest of all other, and spread most. Next to them are those of the Planes, Okes, and other Mast-trees. Some trees there be, the roots whereof like better and live longer, the more ebbe that they lie within the upper face of the ground, and namely, Lawrels; and therefore they spring fresh againe, and put forth better, when the old stocke is withered and
E cut away. Others hold, that trees which have short stumped roots, doe sooner decay, & live lesse while. But deceived they are, and may bee reproved by the instance of Fig-trees, which live least while, and yet their roots are longest of any other. I suppose this also to bee as false, which some have held and delivered in writing, That the roots doe diminish and decay, as the trees doe wax old: for the contrarie hath been seene by an aged Oke, which by the violent force of a tempest was overthrowne, the root whereof tooke up a good acre of ground in compasse.

Moreover, a common thing it is and ordinarie, to replant and recover many trees that have been blowne downe and laid along: for they will rejoine, knit againe, and revive, by meanes of the earth, even as a wound doth unite by the solder of a callous cicatrice. And this is a most usuall and familiar practise observed in the Planes, which by reason of their great heads so thicke of
F boughs, gather winds most, and are soonest subject to their rage: if any one of them by that meanes bee fallen, they lop their boughs, and discharge them of their weightie load, and then set them upright againe in their owne place, as it were in a socket, and they will take root and prosper. And in good faith, this hath been done heretofore alreadie in Walnut trees, Olives, and many other, to the like proofe.

Chap.

G

Chap. xxxii.

Of certaine prodigious trees, and presages observed by them. By what meanes trees grow of their owne accord. That all plants grow not every where: and what trees they be that are appropriate to certaine regions, and are not elsewhere to be found.

WE read in Chronicles and records, that many trees have fallen without wind and tempest, or any other apparent cause, but onely by way of prodigie and presage of some future event: and the same have risen againe of themselves without mans helpe. This happened during the warres against the Cymbrians, to the great astonishment of the people of H
Rome, who thereupon gathered a fore-tokening of great consequence: for at Nuceria in the grove of *Iuno*, there was an old Elme fell, and after the head was lopped off, because it light upon the very altar of *Iuno*, it arose of it owne accord; and that which more is, immediately upon it put forth blossomes and flourished. And this was observed, That from that very instant, the majestie of the people of Rome began to take heart, revive, and rise againe, which had been decaied and enfeebled by so many and so great losses that the Romanes had received. The like chanced (by report) neare the citie Philippi, unto a Willow tree which was fallen downe, and the head of it cut off cleane: semblably, to an Aspen tree at Stagyræ, neare unto the colledge or publick place of Exercise there. And all these were fortunate presages of good lucke. But the greatest wonder of all other was this, of a Plane-tree in the Isle Antandros, which was not onely fallen, but also I
hewed and squared on all sides by the Carpenter; and yet it rose againe by it selfe, and recovered the former greenenesse and lived, notwithstanding it bare fifteene cubits in length, and foure elns in thicknesse or compasse.

All trees that we are beholden unto the goodnesse of Nature for, wee have by three meanes: For either they grow of their own accord, or come of seed, or else by some shoot springing from the root. As for such as we enjoy by the art and industrie of men, there bee a great number more of devises to that effect: whereof wee will speake apart in a severall booke for that purpose. For the present our treatise is of trees that grow in Natures garden onely, wherein shee hath shewed her selfe many waies after a wonderfull manner, right memorable.

First and formost, as we have shewed and declared before, every thing will not grow in every K
place indifferently: neither if they bee transplanted, will they live. This happeneth sometimes upon a disdaine, otherwhiles upon a peevish frowardnesse and contumacie, but oftener by occasion of imbecilitie and feebleneſſe of the very things that are remooved and translated: nay, one while the climate is against it, and envious; otherwhiles the soile is contrarie thereunto. The Baulme tree can abide no other place but Iurie. The Assyrian Pome-Citron tree will not beare elsewhere than in Syria. As for the Date-tree, it scornes to grow under all climates: or, if it bee brought to that passe by transplanting, it refuseth to beare fruit. But say, that it fortune by some meanes, that she giveth some shew and apparence of fruit, shee is not so kind as to nourish and reare up to perfection, that which she brought forth, forced against her will. The Cinnamon shrub hath no power and strength to endure either the aire or earth of Syria, notwithstanding L
it be a neare neighbour to the naturall region of her nativitie. The daintie plants of Amomum or Spikenard, may not away with Arabia, albeit they be brought out of India thither by sea: for king *Seleucus* made triall thereof: so strange they are to live in any other countrey but their own. Certainely, this is a most wonderfull thing to bee noted, That many times the trees for their part may be entreated to remove into a forraine countrey, and there to live; yea, and otherwhiles the ground and soile may bee perswaded and brought to accord so well with plants (bee they never such strangers) that it will feed and nourish them; but unpossible it is to bring the temperature of the aire, and the climate, to condiscend thereto and bee favourable unto them. The Pepper-trees live in Italie; the shrub of Casia or the Canell likewise in the Northerly regions; the Frankincense tree also hath been knowne to live in Lydia: but where were the hote gleames of the M
Sunne to be found in those regions, either to drie up the waterish humor of the one, or to concoct and thicken the gumme and rosin of the other? Moreover, there is another marvell in Nature, welneere as great as that, namely, that she should so change and alter in those same places, and yet exercise her vertues and operations otherwhiles againe, as if there were no change nor

alte-

A alteration in her. She hath assigned the Cedar tree unto hote countries: and yet we set it to grow in the mountaines of Lycia and Phrygia both. Shee hath so appointed and ordained, that cold places should be hurtfull and contrarie to Bay-trees, howbeit, there is not a tree prospereth better, nor groweth in more plentie upon the cold hill Olympus, than it. About the streights of the Cimmerian Bosphorus, and namely, in the cittie Panticapæum, both king *Mithridates*, and also the inhabitants of those quarters, used all meanes possible to have the Lawrell and the Myrtle there to grow, onely to serve their turnes when they should sacrifice to the gods: it would never be, did they what they could: and yet even then, there were good store of trees there growing of a warme temperature; there were Pomgranates and Fig-trees plentie; and now adaies there bee Apple-trees and Pyrries in those parts, of the best and daintiest sort. Contrariwise, yee shall not
B find in all that tract any trees of a cold nature, as Pines, Pitch-trees, and Firres. But what need I to goe as farre as to Pontus for to averre and make good my word? Goe no farther than Rome, hardly and with much adoe will any Chestnut or Cherie-trees grow neare unto it, no more than Peach-trees about the territorie of Thusculum. And worke ynough there is to make Hazels and Filbards to like there: turne but to Tarracina thereby, yee shall meet with whole woods full of Nut-trees.

Chap. xxxiii.

Of the Cypresse tree. That oftentimes some new plants doe grow out of the ground, which were never knowne to be there beforetime.

C

THe Cypresse hath beene counted a meere stranger in Italie, and most unwilling there to grow, as wee may see in the workes of *Cato*, who hath spent more words, and made oftener mention of the Cypresse alone, than of all other trees whatsoever. Much ado there is with it before it come up; and as hard it is to grow, and when all is done, the frut is good for nothing. The Berries that it beareth, bee wrinckled, and nothing lovely to the eie; the leaves wherewith it is clad, bitter in taste; a strong and violent smell it hath with it; not so much as the very shade thereof is delectable and pleasant; and the wood but small & not solide, but of an hollow substance, insomuch, as a man may raunge it among the kinds of shrubs. Consecrated is this tree to *Pluto*, and therefore men use to set a bough thereof as a signe, before those houses wherein a dead
D corpes lieth under bourd. As touching the female Cypresse, it is long ere she beareth. The Cypresse tree for all this, in the end growing up to a pyramidall form sharpe pointed, is not rejected but much set by, if it were for nothing else but to stand betweene every row and ranke of Pine-trees: howbeit, now adaies it is ordered with cutting and clipping for to grow thicke in borders about garden quarters along the allies, also to climbe upon walls in manner of seeling: and being thus kept downe, it is by this meanes alwaies small and tender. Moreover, thereof are drawne many vinets and borders about storie-workes in colours: for so fine is the leafe, so short & greene withall, that it may be brought in a traile to wind about pictures either of hounds and hunters, or of ships and sailers, or any counterfets and images whatsoever, most daintily.

Two sorts there are of the Cypresse tree. First, that which runneth up into a pyramidall
E point, winding upward as a round spire, which also is called the female. As for the male, it sendeth out braunches, and spreadeth broad: it is lopped also, and serveth in frames to beare up Vines. Both the one and the other is suffered to grow for perches, railes, and plankes, to be made of their boughs when they are cut. Once in thirteene yeares there is made a fall, and not one of those but are sold for a Romane denier apeece. A wood thereof planted in this manner, is of all others most gainefull, and yeeldeth greatest profite: insomuch, as in old time they were wont commonly to say, That one fall of such Cypresse poles would yeeld a man a portion sufficient to give with his daughter in mariage.

The Island Candie is the naturall countrey of the Cypresse tree, howsoever *Cato* hath called it a Tarentine tree: haply, because it came thither first. In the Isle Ænaria, the Cypresse trees
F spring againe after they bee cut downe to the roots. But in Candie, looke what ground soever a man doth breake up and plough, unlesse he sow or set it with some other thing, Cypresses will come up, and presently shew above ground. In many places also of that Isle, they spring and grow of themselves, even in ground otherwise untilled; and principally in the mountaines of Ida, and those which they call the white Hils: upon the very crests and tops whereof, which are alwaies

alwaies covered with snow, they are to be seen in greatest plentie. A wonderfull thing, consider- G
ring that in all other places they love warmth, and without it, will not grow: and besides, when they have met with a familiar ground unto them, yet they care not much for it, but disdaine so kind a nource: whereby a man may see, that not onely the nature of the soile, and the ordinarie power of the climat serveth much for these plants, but also certaine sodaine and temporarie impressions of the aire doe wonderfully worke in this case: for some showers there bee, that oftentimes doe bring seeds with them and engender plants. The same rains do fall sometime after one certaine manner; otherwhiles also in such straunge sort, as men are able to give no reason thereof: A thing that befell to the countrey about Cyrene in Barbarie, at what time as the hearb Laserpitium (which beareth the gum Benjoine) grew there first: as hereafter we will write more at large in our treatise of Hearbs. Moreover, about the 430 yeare after the foundation of Rome ci- H
tie, there sprung up a very forest or wood neare unto the same citie, by reason of a certaine thicke and glutinous showre like to Pitch, that then fell.

Chap. xxxiiii.

Of Ivie.

IT is said, that now the Ivie tree groweth also in Asia: and yet *Theophrastus* in his time delivered the contrarie, and affirmed, That neither it was to bee found there, nor yet throughout all India, but only upon the mount Merus. Over & besides, it is reported, that *Harpalus* did what he could to store the countrey of Media therewith, but all in vaine. And as for *Alexander* the I
Great, when he returned from out of India with victorie, for the rareness therof he would have all his souldiours go in a sumptuous shew, wearing chaplets therof upon their heads; resembling herein prince *Bacchus*, in solemnities and high feasts of which god, the people of Thracia even at this day are furnished from this tree, and doe with Ivie set out and garnish the heads of their launces, pikes, and javelins, their mourrons also and targuets.

An enemie is Ivie doubtlesse to trees, and generally to all plants and sets whatsoever: it cleaveth and breaketh sepulchres built of stone, it undermineth citie walls; good only to harbour serpents, and most comfortable for their cold complexions: so that I cannot chuse but marveile much that it should bee honoured at all, and accounted of any worth. But to enter into a more particular consideration and discourse of Ivie, two principall kinds are found thereof, like as of all K
other trees, to wit, the male and the female. The male is described to bee a more massive and greater bodie, to be clad with a harder and fattier leafe, and to shew a flower inclining to purple: and yet the flower of them both, the male as well as the female, doth resemble that of the wild Rose or Eglantine, save that it hath no smell at all. These generall kinds containe each of them three particular sorts: for there is the black & the white Ivie, & a third besides named Helix. And yet we must admit other subdivisions of these also: for of the white, there is one sort that beareth white fruit onely, and another that hath white leaves withall: moreover, of such as carrie only white fruit, one kind hath big beries growing thicke togither, and bunching round in manner of grapes, which clusters be called of the Greeks and Latins Coryni. A second sort there is L
of the white Ivie, named Selenitium, which beareth smaller beries, and those not so close set and thicke couched togither. Semblably, it is to be said of the black: for there is an Ivie that beareth also a blacke graine or seed: another with a fruit of a Saffron colour; and hereof are the guirlands made which Poets weare: some call it Nysia, others Bacchica: the leaves of it are not altogither so blacke, but it beareth the greatest bunches and biggest beries of all the blacke kind. And verily of this Ivie there be some Greeke writers that make two sorts, according to the divers colours of the beries: for, the one they call Erythranus, [*i.* the Red;] the other Chrysocarpos, as one would say, the golden-berry Ivie. Now as touching the rampant or climbing Ivie, Helix, there be many and sundrie sorts thereof, differing in their leafe especially: for first and foremost the leaves of this Ivie are small, cornered, and better fashioned than the rest, which in deed are but of a plaine and simple making. There is a difference likewise in the length betweene every M
knot and joynt, but especially in this, that it is barrain and beareth no fruit at all. And yet some there be, who attribute that to the age, and not to a severall kind of Ivie by it selfe; saying, That the same which at first was Helix, and clasped trees, in tract of time chaunged the leafe and became a very Ivie tree: but foully they are deceived, and disprooved plainly they may be by this,

That

A That of the said claſping Ivie Helix, there be many kinds, and three principall above the reſt. The firſt, of graſſe greene colour, which groweth moſt common: the ſecond, with a white leafe: and the third, called alſo the Thracian Ivie, which hath leaves of divers colours. The foreſaid greene Ivie is fuller of leaves, and thoſe finer and ſet in better order than others; wheras the contrarie is to be ſeene in the white kind: alſo in the third ſort with varietie of colours, ſome have ſmaller and thinner leaves, couched likewiſe in good order, and thicker growing; whereas in the middle kind, no ſuch thing may be obſerved. Over and beſides, the leaves of Ivie are bigger or leſſe, ſpotted alſo and marked; in which regard one differeth from another. Among the white Ivies, ſome bee whiter than other. The greene Ivie, groweth moſt of all others in length: the white killeth trees, for by ſucking and ſoking all the ſap and moiſture out of them, it feedeth and
B thriveth ſo well it ſelfe, that it becommeth in the end as big as a tree. A man may know an Ivie being come to his perfection, by theſe ſignes: The leaves are very big and large withall; the tree putteth foorth young ſhoots ſtraight, whereas in others they be crooked and bend inward: the berries alſo ſtand in their cluſters directly upright. Moreover, whereas the branches of all other Ivies be made like unto roots, this hath boughs ſtrong and ſturdie above the reſt; and next unto it, the blacke kind: howbeit this propertie hath the white Ivie by it ſelfe, That amid the leaves it putteth forth armes that claſpe and embrace the tree round on every ſide: which it doth upon walls likewiſe, although it cannot ſo well compaſſe them. And hereupon it is, that although it be cut aſunder in many places, yet it continueth and liveth ſtill: and looke how many ſuch armes it hath, ſo many heads likewiſe of roots are to be ſeene, whereby it maintaineth it ſelfe ſafe and
C ſound; and is beſides of that force, as to ſucke and choke the trees that it claſpeth. Furthermore, there is great diverſitie in the fruit, as well of the white as the blacke Ivie. As for the reſt, the berries of them are ſo exceeding bitter, as no bird will touch them. And yet there is one kind more of Ivie, which is very ſtiffe and ſtandeth alone of it ſelfe without any prop to beare it up: & this of all others only, is thereupon called Ciſſos, or Ivie in deed. Contrariwiſe, Chamæciſſos, [*id eſt*, ground-Ivie] is never knowne but to creepe along the ground.

Chap. xxxv.

Of the Bind-weed or Ivie called Smilax.

D Like unto Ivie, is that plant which they call Smilax, or rough Bind-weed. It came firſt out of Cilicia, howbeit more commonly it is to be ſeene in Greece: it putteth forth ſtalkes ſet thicke with joynts or knots, and thoſe thruſt out many thornie braunches. The leafe reſembleth Ivie, and the ſame is ſmall, and nothing cornered: from a little ſtele that it hath, it ſendeth forth certain pretie tendrils to claſpe and wind about: the flower is white, and ſmelleth like to a Lillie: it beareth cluſters comming nearer to thoſe grapes of the wild vine Labruſca, than to the berries of Ivie; red of colour, whereof the bigger containe within them three kernels or pepins apeece, the ſmaller but one, and thoſe be hard and blacke withall. This Smilax is not uſed in any ſacrifices or divine ſeruice of the gods, nor ſerveth for guirlands and chaplets; for that it is held to be dolefull and ominous, or of an unluckie preſage, by occaſion of a certaine young ladie or damſell of that name, who for the love of the young gallant and knight *Crocus*, was
E turned into this ſhrub or plant, retaining ſtill her name: which the ignorant people not knowing, but taking it for a kind of Ivie, ſticke not to make coronets thereof; profaning by that meanes many times their high feaſts and ſacred ſolemnities: and yet who woteth not with what chaplets Poëts are crowned, and what guirlands prince *Bacchus* or *Silenus* uſed to weare? Of this Smilax are made certain manuell writing-tables. And this propertie moreover hath the wood thereof, That if a man hold it cloſe to his eare, he ſhall heare it to give a pretie ſound.

But to returne againe to the Ivie indeed, it hath (by report) a ſtraunge and wonderfull vertue to trie wines, whether they bee delaied with water or no: for make a cup of Ivie wood, and put wine thereinto, all the wine will ſoke and run through, but the water (if any be mingled therwith) will tarie behind.

F

Chap. xxxvi.

Of Reeds, Canes, and other water ſhrubs.

IN this diſcourſe as touching plants that love cold places, it will not be amiſſe to treat of thoſe that grow in waters. Among which, the Reeds and Canes may bee raunged in the firſt place:

*for Arrowes and Darts. *for Writing-pens. *for Flutes and Pipes.

for necessarie they bee in time both of * warre and * peace: they have their use besides, and are accepted among the *delightsome pleasures of this world. Moreover, in the Northern regions, the people use therewith to cover and thatch their houses: and this kind of rouse will last many ages, if it be laid with a thicke coat, even upon high and stately houses. In other parts also of the world, they are woont with it to make their arch-rouses, and hanging floores of most slight worke. As for Canes particularly, and those of Ægypt by name, which have a certaine resemblance of the Papyr reed in Nilus, they serve for writing-paper. Howbeit those of Gnidos, and which grow in Asia along the lake or meere of Anaia, be held for the best. As for ours here in Italy, they are of a more spungeous substance and gristly matter, apt to sucke and drinke up any liquor. The same within-forth is full of holes and concavities, but converted aloft into a fine woodie rind, and in time becommeth drie, fast, and hard. Apt it is to cleave, and the clifts evermore carie with them a very sharpe edge; and besides, it is full of joynts. Now this woodie substance being thus distinctly parted by knots, runneth alwaies even and smooth, growing smaller and smaller untill it proove sharpe pointed in the top; with a head consisting of a good thicke downe or plume, which serveth also to right good purposes: for either in stead of feathers they use to stuffe beds therewith in common Innes; or when it is growne hard and hath a slimie callositie about it, they in Picardie and those nether-lands doe stampe it, and therewith calfret or calke the joynts of their ships, betweene the ribs and plankes: and herein it hath no fellow, for it taketh faster hold than any glew, and for filling up any rifts and chinkes, no solder so strong, no pitch so sure and trustie. Of Reeds, the Easterlings make their shafts; and archers they be that fight their battailes and determine all quarels. These shafts they arme with sharpe barbed arrow heads in manner of fish-hookes, which wound with a mischiefe, because they cannot be drawne out of the bodie againe: and to make these arrowes flie the faster and kill more presently, they set feathers unto them. Now say that a shaft be broken as it is set fast in the bodie, that end without the flesh will serve againe to be shot: and so inured are the people in those parts to these kind of weapons, so practised withall in discharging of them so nimbly, that a man seeing how thick the shafts flie in the aire, would say they were a cloud of arrowes that shadowed the very sunne. And therefore when they goe to battaile, they wish ever for faire weather and Sunne-shine dayes. Winds and raine, as most adverse unto their warres, they cannot abide: then are they quiet and rest in peace, full sore against their wills, because their weapons at such a time will not serve their turne. Certes if a man would fall to an exact reckoning and æstimate of Æthyopians, Ægyptians, Arabians, Indians, Scythians, and Bactrians, of so many nations also of the Sarmatians, and other East countries, togither with all the kingdomes of the Parthians, hee should find, that the one moietie or halfe of the world hath been vanquished and conquered by the meanes of arrowes and darts, made of Reeds. The Candiots above all others, were so readie and perfect in this kind of feat, that the overweening of their owne skill, and the confidence which they had in this manner of service, made them too bold, and was in the end their owne overthrow. But herein also, as in all other things else whatsoever, Italie hath carried the name, and woon the prize: for there is not a better Reed growing for to make shafts, than that which is found along the Rhene, a little river running under Bononia: verie full of marow or pith; stiffe also it is and weightie withall; it cutteth the aire, it flyeth away most swiftly; and last of all, it will hold the owne and stand in the weather so countrepoised, that no wind hath any power on it. And those Reeds in Picardie and the low countries, are nothing comparable; ne yet of Candie, how highly soever they bee commended for warre-service. And yet the Reeds that grow in India be preferred before them, and beare the name, which indeed some thinke to be of another nature, considering they be so firme and bigge withall, that beeing well headed with yron, they serve in stead of speares and javelins. In very truth, the Indian Canes for the most part, grow to the bignesse of trees, such as we see commonly in temples, standing there for a shew. The Indians doe affirme, that there is a difference among them also, in regard of sex; and namely, that the substance and matter of the male, is more fast and massie; but that of the female, larger and of greater capacitie within. Moreover, (if wee may beleeve their words) the very Cane betweene every joynt, is sufficient to make a boat. These great Canes doe grow principally along the river Acesine. All Reeds in generall, doe shoot and spring in great number from one root and principall stocke: and the more they bee cut, the better they come againe. The root liveth long, and without great injurie offered unto it, will not die: it also is divided

A vided into many knottie joynts. Thoſe onely of India, have ſhort leaves. But in all of them, the leafe ſpringeth out of the joynt, which embracing the Cane, doth clad it round about with certaine thin membranes or tunicles, as farre as to the middle ſpace betweene the joynts; and then for the moſt part they give over to claſpe the Cane, and hang downward to the ground. As well Reeds as Canes, ſpread their leaves like wings round one after another, on either ſide upon the very joynts, and that in alternative courſe alwaies verie orderly; ſo as if the one ſheath come foorth of the right ſide, the other at the next knot or joynt above it, putteth out on the left, and thus it doth throughout by turnes. From theſe nodoſities, otherwhiles a man ſhall perceive (as it were) certaine little braunches to breake foorth, and thoſe be no other but ſmall and ſlender Reeds.

B Moreover, there bee many kinds of Reeds and Canes: for ſome of them ſtand thicker with joynts, and thoſe are more faſt and ſolide than others, and ſmall diſtance there is betweene the ſame: there be againe, that have not ſo many of them, and greater ſpace there is from the one to the other, and ſuch Canes for the moſt part are of a thinner ſubſtance. Ye ſhall have a Cane all full of holes within, called thereupon Syringias; and ſuch are very good to make whiſtles or ſmall flutes, becauſe they have within them neither griſtly nor fleſhie ſubſtance. The Orchomenian Cane is hollow throughout from one end to the other, and this they call Auleticus, or the pipe Cane; for as the former was fit for flutes, ſo is this better for great pipes. Now you ſhall meet with Canes alſo that ſtand more of the wood, and have but a narrow hole and concavitie within; and this is full of a ſpungeous pith or marow within-foorth. Some be ſhorter, ſome

C longer than other: and where you have one that is thin and ſlender, you ſhall ſpie a fellow to it more groſſe and thicker. That which braunch eth moſt, and putteth foorth greateſt ſtore of ſhoots, is called Donax, and is never knowne to grow but in mariſhes and waterie places, (for herein alſo lyeth a difference) and preferred it is farre before the Reed that commeth up in drie ground. The Archers Reed is a ſeverall kind by it ſelfe (as we have ſhewed before;) but of this ſort, thoſe in Candie have the greateſt ſpaces betweene every joynt; and if they be made hote, they are verie pliable, and will bend and follow which way ſoever a man would have them.

Moreover, Reeds are diſtinguiſhed one from another by the Leafe, not for the number, but the ſtrength and colour. The leaves of thoſe about Lacedæmon, * are ſtiffe and ſtrong, grow- * *Varia*, or *Versicolor*, ποικίλα, *Theoph. i.* of divers colors.
ing thicker of the one ſide than the other. And ſuch as theſe are thought generally to grow
D along ſtanding pooles and dead waters, farre unlike to thoſe about running rivers: and beſides, to be clad with long pellicles, which claſpe and climbe about the Cane higher above the joynt, than the reſt doe. Furthermore, there is another kind of Reeds that groweth crooked and winding travers, and not upright to any height, but creeping low toward the ground, and ſpreading it ſelfe in manner of a ſhrub. Beaſts take exceeding great delight to feed thereof, and namely, when it is young and tender, for the ſweet and pleaſant taſt that it hath. Some call this Reed, Elegia.

Over and beſides, there breedeth in Italie alſo among the fennes, a certaine ſalt ſome, named * Adarca, ſticking to the rind or utmoſt barke of Reeds and Canes, onely under the verie * *Calamachne.*
tuft and head: paſſing good it is for the tooth-ach, by reaſon of the hote and cauſticke qualitie
E that it hath like to Senvie or Muſtard-ſeed. As touching the Reed-plots about the Orchomenian lake, I muſt needs write more exactly, conſidering in what admiration they were in times paſt: for in the firſt place, they called that Cane which was the thicker and more ſtrong, Characias; but the thinner and more ſlender, Plotia. And this verily was woont to bee found ſwimming in the Iſlands that floted in the ſaid lake; whereas the other grew alwaies firme upon the bankes and edges thereof, how farre ſoever it ſpred and flowed abroad. A third ſort alſo there is of Canes, which they called Auleticon, for that it ſerveth to make flutes and pipes of: but this commonly grew but every ninth yeare: for the ſaid lake alſo kept that time juſt, and encreaſed not above that tearme; but if at any time it chaunced to paſſe that time and to continue full two yeares togither more than ordinarie, it was holden for a prodigious and fearefull ſigne. The
F which was noted at Chæronia, in that unfortunate battaile wherein the Atheniens were overthrown and defeated: and many times elſe is obſerved to happen about Lebadia, namely, when the river Cephiſus riſeth ſo high, that he ſwelleth over his bankes, and is diſcharged into the ſaid lake. Now during that ninth yeare (whiles the inundation of the lake continueth) theſe Canes proove ſo bigge and ſtrong withall, that they ſerve for hawking poles, and fowlers pearches:

and then the Greeks call them Zeugitæ. Contrariwise, if the water hold not so long, but doe fall G
and returne back within the year, then the Reeds be small and slender, named Bombyciæ. How-
beit the females of this kind, have a broader and whiter leafe, little or no down at all upon them,
and then they are knowne by a pretie name and called Spadones, as one would say, guelded. Of
these Reeds were made the instruments for the excellent close musicke within-house: wherein, I
cannot passe with silence, what a wonderfull deale of paines and care they tooke to fit them for
their tune, and make them to accord: insomuch, as wee are not to be blamed but borne withall,
if now adaies we chuse rather to have our pipes and hautboies of silver. And in truth, unto the
time of *Antigenes* (that excellent minstrell and plaier upon the pipe) all the while that there was
no use but of the plaine musicke and single instrument; the right time of cutting down and ga-
thering these Reeds for this purpose, was about September, when the signe Arcturus is in force: H
then were they to have a seasoning and preparation for certain yeares, before they would serve
the turne: yea and then also much adoe there was with them, and long practise and exercise they
asked, before they could be brought into frame and good tune: so as a man might well say, that
the very pipes were to be taught their sound and note, by means of certain tongues or quils that
strucke and pressed one upon another; and all to give contentment and shew pleasure unto the
people assembled at Theatres, according as those times required. But after that musicke came
once to be compound, and that men sung and plaied in parts with more varietie and delight,
they began to gather these Reeds before mid-Iune, and in three yeares space they had their per-
fection and grew to their proofe: then were those tongues or holes made more wide and open,
for to quaver and chaunge the note the better: and of such are the flutes and pipes made, which I
be used at this day. But in those times men were perswaded, that there was a great difference in
the parts of any Reeds for to serve these or those instruments: in such sort, as that joynt which
was next unto the root, they held to be meeter for the Base pipe that was fitted for the left hand;
and contrariwise for the Treble of the right hand, those knots that were toward the head and top
of the Reed. Howbeit of all others, by many degrees were those preferred which grew in the ri-
ver Cephisus. Now adaies the Hautboies that the Tuscanes play upon at their sacrifices, bee of
Box-wood; but the pipes used in plaies for pleasure only, are made of the Lotos, of asses shank-
bones, and of silver. The best Faulconers Reeds wherewith they use to chase foules, came from
Panhormus: but the Canes for angle-rods that fishers occupie, are brought out of Africk from
Abaris. The Italian Reeds and Canes be fittest for to make perches to lay over frames, & props K
for to bear up vines. Finally, as touching the setting of Reeds, *Cato* would have them to be plan-
ted in moist grounds, after they have been first delved and laid hollow with a spade; provided al-
waies that the œleth stand three foot asunder, and that there be wild Sparages among, whereof
come the tender crops for sallads; for those like well and sort togither with the Canes.

Chap. xxxvii.

Of the Willow or Sallow, eight kinds thereof: and what trees besides the Willow are good for buildings. Also of Briers and Brambles.

MOreover (after the opinion of the said *Cato*) it is good to plant Withies also about river L
sides, and neare to Reeds: for surely there is not more profit arising from any other tree
of the waters, than from it; howsoever the Poplars are well liked and loved of the vines,
and doe nourish the good wines of Cæcubum: howsoever the Alders serve in stead of rampiers
and strong fences against the inundation and overflowing of rivers, withstanding their forcible
eruptions; howsoever they stand in the waters as mures and walls to fortifie the banks, or rather
as sentinels to watch and ward in the borders of country farmes; and being cut down to the root,
doe multiply the rather, and put forth many shoots and imps as heirs to succeed. And to begin
withall, of Sallows there be many kinds: for some there be, that in the head beare pearches of a
great length to prop and make trailes for vines to run upon: and the rind or skin as it were pilled
from the wood, is as good as a belt or thong to bind or gird any thing withall. Others againe M
there are, and namely the red Willowes, which carie twigs and rods that are pliable and gentle
to wind as a man would have them; fit also for buildings. Ye shall have of these Osiers, some that
are very fine & passing slender, wherof are wrought pretie baskets and many other daintie devi-
ses; others also that are more tough and strong, good to make paniers, hampers, and a thousand
other

A other necessarie implements for countrey houses, and to fit the husband-men. Beeing pilled, they are the fairer and whiter, more smooth also and gentle in hand, whereby they are excellent good for the more delicate sort of such wicker ware, and better farre than stubborn leather; but principally for leaning chaires, wherein a man or woman may gently take a nap, sitting at ease and repose most sweetly. A Willow, the more that it is cut or lopt, the better spring will it shoot at root, and beare the fairer head. Let that which you cut or shred, be so little and short withall, that it resemble a mans fist, rather than a bough, the thicker will it come againe: a tree no doubt that would not be set in the lowest ranke, but be well regarded, howsoever we make but base reckoning thereof: for surely there is not a tree for revenue and profit, more safe and certaine; for cost, lesse chargeable; and for injurie of weather, in better securitie. Certes *Cato*, among the
B commodities that commend a good ferme or manour, esteemeth it in the third place, and preferreth the encrease and benefit thereby, before the gaine that groweth from Olive rowes, corne fields, and good medowes. Yet hereof wee must not infer, that wee are not furnished with many other things which will serve for bands to bind withall; for we have certain sorts of Spart or Spanish broome, wee have Poplars, Elmes, the Sanguine-shrubs, Birch, cloven Reeds, leaves of Cane; as for example in Liguria: the cuttings also of the very Vine, and Briars, so their sharpe pricks be cut away, to tie withall; yea and the Hazell wands also, so they be writhen and twined: wherein a man may see a wonderfull propertie, That a wood should be stronger for to bind withall, when it it is crushed and bruised, than whiles it was entire and sound. All these (I say) are good for bands, and yet the Willow hath a gift therein beyond all the rest. The Greek Willow is red,
C and commonly is sliven for to make withes. The Amerian Osier is the whiter, but more brittle, and soone will cracke, and therefore it is put to that use of binding sound and whole as it groweth, and not cloven through. In Asia, they make account of three sorts of Willows: the blacke, which they employ to wind and bind withall, so tough and pliant it is: the white, wherewith husbandmen make their wicker paniers and baskets, with other such vessels for their use: as for the third, it is the shortest of all other, and they call it Helix, or Helice. With us also here in Italie, there be as many kinds, and those distinguished by their severall names: the first, which is of a deepe purple colour, they call the free Osier or Willow; and that is so good for bands: the second, which is more thin and slender, is named * Vitelina, for the bright hew that it hath: the third that is smallest of all three, is the French Willow.

* or, *Vitellinam* rather, for the yellow colour of the yolke of egg.

D To come now to the brittle Rushes that grow in marish grounds, which serve to thatch houses and to make mats; and the pith whereof when the rind is pilled, maketh wieke for watch-candles, and funerall lights to burne by a dead corps whiles it lieth above ground: they cannot justly be reckoned in the ranke either of Shrubs, or Brier-bushes and Brambles, ne yet of tall plants growing up with stems and stalkes, no more than among Hearbs and Weeds creeping along the ground; but are to be counted a severall kind by it selfe. True it is, that in some places there are to be found rushes more stiffe, hard, and strong, than in others. For not onely mariners and watermen in the river Po doe make sailes thereof, but fishermen also of Affrick in the maine sea: howbeit they hang their sailes betweene the masts, from mast to mast, after a preposterous manner contrary to all other. The Mores also doe cover their cottages with Bulrushes: and sure-
E ly if a man looke nearely to the nature of them, they may seeme to serve for that use which the Papyr reeds in the neather-land of Ægypt are put unto, about the descent and fall of the river Nilus.

As touching Brambles, they may goe among the shrubs of the water: so may the Elders also, which consist of a spongeous kind of matter, & yet cannot well be counted among those plants which be tearmed Fenels-gyant: for surely the Elder standeth more upon the wood than they doe. The shepheards are verily perswaded, that the Elder tree growing in a by-place farre out of the way, and from whence a man cannot heare a cocke crow out of any town, maketh more shrill pipes and lowder trumpes than any other. The Brambles beare certaine berries like the Mulberries, even as the sweet Brier of another kind, which they call Cynosbatos or the Eglantine,
F carrieth the resemblance of a Rose. A third sort there is of Brambles, which the Greeks call Idæa, of the mountaine Ida. This is the Raspis: smaller it is and more slender than the rest, with lesse pricks upon it, and nothing so sharpe and hooked. The flower of this Raspis beeing tempered with honey, is good to be laid to bleared and bloodshotten eyes; as also to the wild-fire or disease called Saint *Anthonies* fire. Being taken inwardly, and namely drunke with water, it is verie

comfortable to a weake stomacke. The Elder beareth certaine blacke and small Berries, full of a G
grosse and viscous humor, used especially to die the haire of the head blacke. If they be boiled in water, they are good and wholesome to be eaten, as other pothearbes.

Chap. xxxviii.

Of the juice or humor in trees. The nature of their wood and timber. The time and manner of felling and cutting downe trees.

TRees have a certaine moisture in their barkes, which we must understand to bee their verie bloud, yet is it not the same, nor alike in all: for that of the Figge trees is as white as milke, and as good as rendles to give the forme to cheese. Cherrie trees yeeld a glutinous and gummie humor, but Elmes a thin liquor in manner of spittle. In Apple trees the same is fattie and viscous; in Vines and Pyrries, waterish. And generally, those trees continue and live longest that have such a glewie moisture in them. In summe, there are to bee considered in the substance and bodie of trees, like as of all other living creatures, their skin, their bloud, flesh, sinewes, veines, bones, and marrow. For in lieu of their hide is the barke. And I assure you, a straunge and marvellous thing it is to be observed here in the Mulberrie, that when Physicians seeke to draw the foresaid liquour out of it, at seven or eight a clocke in a morning, if they scarifie or lightly cut the barke with a stone, it issueth forth, and they have their desire; but if they crush or cut it deeper in, they meet with no more moisture than if it were starke drie. In H
most trees next to the skin lieth the fat: this is nought else but that white sap, which of the co- I
lour is called in Latin Alburnum. As it is soft in substance, so is it the worst part of the wood; and even in the strong Oke, as hard as otherwise it is, ye shall have it soone to putrifie and rot, yea, and quickly to bee worme-eaten. And therefore, if a man would have sound and good timber, this white must be alwaies cut away in the squaring. After it, followeth the flesh of the tree; and so the bone, which is the very heart and best of the wood.

All trees whereof the wood is over drie, beare fruit but each other yeare, or at leastwise more in one yeare than another, as namely, the Olive tree. A thing observed more in them, than in those that have a pulpous and fleshie substance, as the Cherrie tree. Neither are all trees indifferently furnished with store of the said fat or flesh, no more than the most fierce and furious beasts. As for the Boxe, Cornell, and Olive trees, they have neither the one nor the K
other, ne yet any marrow at all, and but verie little bloud. Semblably, the Servise tree hath no heart, the Elder no carnositie, (and yet both of them are stored well ynough with marrow, which is their pith) no more than canes or reedes for the most part. In the fleshie substance or wood of some trees, there are to bee found graine and veine both. And easie it is to distinguish the one from the other: for commonly the veines bee larger and whiter; contrariwise, the graine (which the Latines call Pulpa) runneth streight and direct in length, and is to bee found ordinarily in trees that will easily cleave. And hereupon it commeth, That if a man lay his eare close to one end of a beame or peece of timber, he shall heare the knocke or pricke that is made but with a penknife at the other end, bee the peece never so long, by reason that the sound goeth along the streight graine of the wood. By this meanes also a man shall find L
when the timber doth twine, and whether it runne not even, but bee interrupted with knots in the way.

Some trees there be that have certaine hard bunches, bearing out and swelling like to kernels in the flesh of a Swines necke, and these knobs or callosities, have not in them long graine and broad veine, as is aboveſaid: but onely a brawnie flesh (as it were) rolled round together. And to say a truth, when such knurs and callosities as these bee, are found either in Citron or Maple trees, men make great account of them, and set no small store by that wood. All other sorts of tables, when the trees are cloven or sawne into plankes, are brought into a round compasse with the graine: for otherwise, if it were slit overthwart to make them round against the grain, it would soone breake out. As touching the Beech, the graine of it runneth crosse two contrarie waies M
like combe teeth; but in old time the vessels made of that wood, were highly esteemed. As for example, *Manius Curius* having subdued his enemies, protested, and bound it with an oth, That of all the bootie and pillage taken from them, hee hath not reserved any thing for himselfe, but onely a cruet or little ewer of Beech wood, wherewith he might sacrifice unto the gods.

There

A There is no wood but floteth aloft the water, and waveth in length: like as that part which is next to the root, is farre more weightie, ſetleth faſter downe and ſinketh. Some wood hath no veines at all, but conſiſteth onely of a meere graine, ſtreight and ſmall in manner of threds: and ſuch commonly is eaſie to be cloven. There is againe wood which hath no ſuch direct grain, and that will ſooner breake out than cleave, and of this nature is the Olive and Vine-wood. Contrariwiſe, the whole bodie and woodie ſubſtance of the Fig-tree, is nothing but fleſh. The Maſtholme, Cornell, Oke, Tretrifolie, Mulberrie, Ebenie, and Lotus, which have no pith and marrow within, as is beforeſaid, are all heart. All wood for the moſt part turneth to a blackiſh colour. The Cornell tree is of a deepe yellow, whereof are made the faire Bore-ſpeare ſtaves, which ſhine againe, and bee ſtudded (as it were) with knots, and chamfred betweene, both for decencie and
B handſomeneſſe. The Cedar, Larch, and Iuniper wood, is red.

Chap. xxxix.

Of the Larch, the Firre, and the Sapine: the manner of cutting or falling ſuch like trees.

THere is a female Larch tree which the Greekes call Ægis: the wood whereof is of a pleaſant colour, like to honie. Painters have found by experience, that it is excellent good for their tables, both for that it is ſo even and ſmooth, not apt beſides to chinke and cleare; as alſo becauſe it will endure and laſt for ever. And that part they chuſe which is the very heart of it,
C and next the pith, which in the Fir tree the Greekes call Leuſon. In like ſort the heart of the Cedar is hardeſt, which lieth next to the pith or marrow abovenamed (much after the manner of bones in the bodies of living creatures) when the muddie carnoſitie is ſcraped off & taken away. The inward part alſo of the Elder by report is wonderous hard and tough, and they that make thereof ſtaves for Bore-ſpeares, prefer it before any wood whatſoever. For it ſtanderh onely upon skin and bone, that is to ſay, of the rind and heart.

Theophraſtus writeth this of the Cornell tree.

As touching the falling and cutting downe of trees, to ſerve either in temples or for other uſes, round and entire as they grow, without any ſquaring; as alſo for to bark them; the only time and ſeaſon is, when the ſap runneth, and that they begin to bud forth: otherwiſe you ſhall never be able to get off their barke: for barke them not, they will rot and become worme-eaten under
D the ſaid barke, and the timber withall waxe duskiſh and blacke. As for the other timber that is ſquared with the axe, and by that meanes rid from the barke, it would bee fallen or cut downe betweene mid-winter and the time that the wind Favonius bloweth: or, if wee bee forced to uſe the timber before, and to prevent that time, trees may be fallen at the ſetting of the ſtar Arcturus, or of the Harpe ſtar before it. Finally, the utmoſt and laſt time thereof is at the Summer Sunſtead. But for as much as moſt men be ignorant of theſe ſeaſons, and know not when theſe ſtars abovenamed doe either riſe or fall, I will hereafter ſhew the reaſon both of the one and the other in place convenient. For this preſent, as touching the time of felling trees, the common ſort make no more ſcruple, but thinke it ſufficient to obſerve, that no trees which are to be hewne ſquare for Carpenters worke be caſt downe and laid along before they have borne their fruit. As
E for the hard and ſavage Oke, if it bee felled in the Spring, it will be ſubject to the worme: but cut it downe in midwinter, it will neither warpe, nor yet cleave and chinke: being otherwiſe ſubject unto both, namely, as well to caſt and twine, as to rift and gape: a thing incident to the Corke wood, bee it cut downe in as good a ſeaſon as it is poſſible. Moreover, it paſſeth to ſee how much the age of the Moone availeth in this caſe. For it is commonly thought, that timber would not be fallen but in the wane, and namely, in the laſt quarter, from the twentieth day of the Moone, untill the thirtieth. And this is generally received among all good workemen, That the beſt time to cut downe any timber, is in the conjunction of the Moone with the Sunne, even the very day of the change, before ſhe ſheweth new. Certes, *Tiberius Cæſar* the Emperour, gave order to fell the Larch trees that came out of Rhœtia, to repaire and reedifie the bridge that ſerved to repre-
F ſent the ſhew of a navall battell upon the water (which fortuned to be conſumed with fire) juſt at the chaunge of the Moone. Some ſay, that we muſt preciſely obſerve the point of the conjunction, and that the Moone withall be under the earth, when ſuch trees ſhould be felled: which cannot be but in the night. But if it fall out beſides, that this conjunction or change of the Moone, and the laſt day of the winter Sunſtead meet together at one inſtant: the timber then cut downe

will

will laſt a world of yeares. Next unto it is that timber which is fallen in the daies and ſigns above rehearſed. Others affirme moreover, that the riſing of the Dog ſtar would be conſidered & choſen for this purpoſe: for at ſuch a time was that timber felled, which ſerved for the ſtately hall or pallace of *Auguſtus*. Moreover, for to have good and profitable timber, the trees would bee cut downe that are of a middle age, for neither young poles nor old runts are fit for durable building. Furthermore, there bee that hold opinion, That for to have the better timber, the trees ſhould have a kerfe to the very heart and pith round about, and ſo let it ſtand an end ſtill, that all the humor by that meanes might run out, before they be overthrowne and laid along. And verily, a wonderfull and miraculous thing is reported in old time, during the firſt Punicke war againſt the Carthaginians, namely, That all the ſhips of that fleet which was conducted by Generall *Duellius* the high Admirall, were ſhot into the ſea and under ſaile, within threeſcore daies after that the timber whereof they were built, was cut downe in the wood. And *L. Piſo* hath left in writing, That againſt king *Hiero*, there were two hundred and twentie ſhips made and furniſhed in five and fortie daies after the timber grew. Alſo in the ſecond Punicke war, the Armado which *Scipio* emploied, was ſet aflote and bare ſaile fortie daies after the fall of the timber. See how forcible and effectuall in all things is the ſeaſon & opportunitie of time duly taken, eſpecially when need driveth to make ſpeed and haſten apace.

Cato the cheefe and onely man of all others for experience and knowledge in every thing, in his Treatiſe of all kind of timber to be emploied in building, giveth theſe rules following, Make thy preſſing plancke eſpecially of the black *Sapine or Hornbeame tree. *Item*, Whenſoever thou meaneſt to ſtorke up either Elme, Pine, Walnut tree, or any other whatſoever for timber, ſee thou dig it out of the ground, in the wane of the moone, and that in the afternoone, and take heed in any wiſe that the wind be not South. *Item*, The right ſeaſon to fell a tree for timber, is when the fruit is full ripe. *Item*, Beware in any caſe, that thou neither draw foorth of the ground, nor yet ſquare a tree, when the dew falleth. And a little after. Beware thou meddle not with timber trees but either at the change or full of the Moone. And in no hand, neither ſtorke it up then, nor hew it hard to the ground. But within foure daies after the full Moone, plucke up trees hardly, for that is the beſt time. *Item*, Be well adviſed, that thou neither fell, ſquare, nor touch with the ax, any timber that is blacke, unleſſe it he drie. And meddle not with it, if either it be frozen, or full of deaw. *Tiberius* the Emperour abovenamed, obſerved likewiſe the chaunge of the Moone, for cutting the haire both of head and beard. And yet *M. Varro* gave a rule, That to prevent baldneſſe and the ſhedding of haire, the Barber ſhould be ſent for alwaies after the full Moone.

*Sapino or, Carpine.

But to come againe unto our timber trees. The Larch and Fir, both, but the Fir eſpecially, if they be cut down, bleed a long time after, and yeeld abundance of moiſture. Indeed, theſe twaine of all other bee the talleſt, and grow moſt ſtreight and upright. For Maſt poles, and croſſe-Saile-yards in ſhips, the Fir or Deale is commended and preferred before all other, for the ſmoothnes and lightneſſe withall. The Larch, the Fir, & the Pine, have this propertie common to them all, To ſhew the graine of their wood, running either parted in foure, forked in twaine, or ſingle one by one. For fine Carpentrie and Ioiners ſeeling within houſe, the heart of the tree would be cloven or rent. The quarter timber, or that which runneth with foure graines, is ſimply the beſt, and more pleaſant to be wrought than the reſt. They that be skilfull woodmen and have experience in timber, will ſoone find at the firſt ſight the goodneſſe of the wood by the very barke. That part of the Fir tree which groweth next to the earth, is without knots, even and plaine: the ſame is laid to ſoke and ſeaſon in the water, and afterwards the barke is taken off, and ſo it commeth to bee called Sapinus. The upper part is knottie and harder than the nether, and the Latines name it Fuſterna. In ſumme, what tree ſoever it be, that ſide which regardeth the North, is more ſtrong and hard than the other. And generally, the wood of thoſe trees that grow in moiſt and ſhadie places is the worſe: contrariwiſe, that which commeth from ground expoſed to the Sunneſhine is more faſt and maſſie, and withall, endureth a long time. And hereupon it is, that at Rome the Fir trees that come from the nether ſea ſide out of Tuſcane, be in better requeſt than thoſe from Venice ſide, upon the coaſt of the upper ſea.

Moreover, there is great ods betweene Fir trees, in regard of diverſe countries and nations where they grow. The beſt are thoſe of the Alpes and the Apennine hils. Likewiſe within France there are excellent good Firs upon the mountaines Iura and Vogeſus: as alſo in Corſica, Bithynia, Pontus, and Macedonia. A worſe kind of them grow in Arcadia and about the mountaines

neare

A neare Ænea. The worſt be thoſe of Pernaſſus,& Eubœa: for in thoſe parts they be full of boughs and grow twined,beſides,they ſoone doe putrifie and rot.

As for Cedars,the beſt ſimply be thoſe that grow in Candie,Affricke,and Syria. This vertue hath the oile of Cedar, That if any wood or timber be throughly annointed therewith,it is ſubject neither to worme nor moth,ne yet to rottenneſſe.

The Iuniper hath the ſame propertie that the Cedar. They prove in Spaine to bee exceeding big and huge,the Berries alſo greateſt of all others. And whereſoever it groweth,the heart thereof is more ſound than the Cedar.

A generall fault and imperfection there is common to all wood, When the grain,& the knots run into round balls;and ſuch they call in Latine Spiræ. Alſo in ſome kind of timber, like as in
B marble alſo there bee found certaine knurs like kernils, as hard they be as naile heads; and they plague ſawes,whereſoever they light upon them. Otherwhiles they fall out to be in trees,by ſome accidentall occaſion,as namely,when a ſtone is gotten into the wood,and encloſed within it: or, in caſe the bough of ſome other tree be incorporate or united to the foreſaid wood. There ſtood a long time a wild Olive in the market place of Megara,upon which the hardie and valiant warriors of that citie uſed to hang and faſten their armour, after ſome worthie exploit performed: which in tract and continuance of time were overgrowne with the barke of the ſaid tree,& quite hidden. Now was this a fatall tree unto the ſame citie and the inhabitants thereof,who by way of Oracle were forewarned of their wofull deſtinie and utter ruin; which was to happen, When that a tree ſhould be with young,and delivered of harneis: which Oracle was fulfilled when this tree
C was cut downe,for within the wombe thereof were found the mourrions,jambriers or greives,of brave men in times paſt. To conclude, it is ſaid, That ſuch ſtones ſo found in trees bee ſingular good for a woman with child,to carie about her,that ſhe may goe her full time.

Chap. xl.

Of diverſe ſorts of timber. Of certaine trees of extraordinarie bigneſſe. What trees they be that never be worme-eaten,nor decay and fall. What wood doth endure and continue alwaies good.

D THe greateſt tree that to this day had ever beene knowne or ſeene at Rome, was that,which being brought with other timber for the rebuilding of the foreſaid bridge called Naumachiaria, *Tiberius Cæſar* commanded to be landed and laid abroad in view for a ſingular and miraculous monument to all poſteritie: and it remained entire & whole,untill the time that *Nero* the Emperour built his ſtately Amphitheatre. This peece of timber was of a Larch tree: it contained in length 120 foot, and carried in thickneſſe every way two foot, from one end to the other. Whereby a man may gueſſe and judge the incredible height of the whole tree beſides,to the very top. Such another tree there was to be ſeene in our daies, which *M. Agrippa* left for the like ſingularitie & wonder of men,in thoſe ſtately porches and cloiſters that he made in *Mars* field: and it continued ſtill after the building of the muſter place and treaſurers hall named Diribitorium. Shorter it was than the former by twentie foot, and caried a foot and halfe in
E thickneſſe. As for the Fir tree, which ſerved for a maſt in that huge ſhip,which by the commaundement and direction of *C. Caligula* the Emperour tranſported and brought out of Ægypt, that Obeliske which was erected and ſet up in the Vaticane hill, within the Cirque there, together with the foure entire ſtones which bare up the ſaid Obeliske as ſupporters; it was ſeene of a wonderfull and ineſtimable height above all others: and certaine it is, that there was never knowne to flote upon the ſea a more wonderfull ſhip than it was. She received 120000 Modij of Lentils for the very ballaiſt; ſhee tooke up in length the greater part of the left ſide of Hoſtia harbour: for *Claudius* the Emperour cauſed it there to be ſunke,together with three mightie great piles or dams founded upon it, and mounted to the height of towers, for which purpoſe there was brought a huge quantitie of earth or ſand from Puteoli. The maine bodie of this maſt contained
F in compaſſe foure fadome full. And a common by-word it is, currant in euery mans mouth, that Fir maſts for that purpoſe,are uſually ſold for eight hundred Seſterces apeece,and more monie: whereas for the moſt part plankes which are ſet together and ſerve in ſtead of boats,ordinarily coſt but fortie. Howbeit,the kings of Ægypt and Syria,for default and want of Fir,have uſed(by report)in ſteed thereof Cedar wood about their ſhipping. And verily,the voice goeth of an exceeding

ceeding big one which grew in Cyprus, and was cut downe for a maſt to ſerve that mightie galleace of king *Demetrius*, that had eleven bankes of oares to a ſide; a hundred and thirtie foot it was high, and three fatham thicke. And no marvell, ſince that the pyrates and rovers who haunt the coaſts of Germanie, make their punts or troughs of one entire peece of wood and no more, wrought hollow in manner of a boat, and ſome one of them will hold thirtie men. G

To proceed now unto the ſundrie natures of wood. The moſt maſſie and faſt wood, and therefore the weightieſt of all other, by judgement of men, is that of the Ebene and the Boxe: both ſmall trees by nature. Neither of them twain ſwimmeth above the water, no more will the Corke wood, if it be barked, nor the Larch. Of all the reſt, the ſaddeſt wood is that of Lotus, I meane that which at Rome is ſo called. Next to it, is the heart of Oke, namely, when it is rid of the white ſappie wood: the heart (I ſay) which commeth neare to a blacke colour: and yet the Cytiſus or Tretrifolie is blacker, and ſeemeth moſt to reſemble the Ebene. Howbeit, you ſhall have ſome, who affirme that the Terebinths of Syria bee blacker than it. There was one *Thericles* a famous Turner, who was wont to make drinking cups, mazers, and bowles of the Terebinth; which is a ſufficient prooſe, that the wood is fine and hard. This wood alone of all others, loveth to bee oiled, and ſurely the better it is for the oile. But a marvellous pretie deviſe there is to ſet a paſſing faire blacke colour, and a ſhining gloſſe upon it; with Walnuts and wild Peares, namely, boiling theſe together, and making thereof a mixture and compoſition to give the ſaid tincture. All theſe trees abovenamed have a ſad and faſt wood. Next to them in that reſpect is the Cornell tree: and yet I cannot properly raunge it in the order of timber trees, ſo ſmall and ſlender it is. Neither is the wood thereof good in manner for nought els but for ſpokes in cartwheeles, alſo to make wedges to cleave wood, and tough pins, which will hold as faſt well neare as yron ſpikes. In like ſort, the Maſt-holme, the Olive both wild and tame, the Cheſtnut tree, the Hornebeame, and the Poplar, be of an hard ſubſtance, and meet for this purpoſe. The wood hereof hath a curled graine like the Maple, and ſurely would bee as good timber as any, but for often lopping the boughs, which gueldeth and deminiſheth the ſtrength. Moreover, many of them there bee, and the Oke eſpecially, ſo hard, that unleſſe they be ſoked firſt in water, it is impoſſible to bore a hole into them with an augoer, nor to plucke forth a naile if it be once ſet faſt, water them as much as you will. Contrariwiſe, the Cedar will not hold a naile. The wood of the Linden tree ſeemeth of all other to be moſt ſoft, and hoteſt withall: for prooſe whereof, this reaſon men doe alleadge, becauſe it ſooneſt turneth and dulleth the axe edge. Of a hote nature alſo are the Mulberrie tree, the Lawrell, and the Yvie, and in one word, all thoſe that ſerve to ſtrike fire with. This experiment was firſt found out by ſpies, that goe betweene campe and campe, by ſheepheards alſo in the field: for having not flint evermore readie at hand to ſmite and kindle fire withall, they make ſhift for to rub and grate one wood againſt another, & by this attrition there flie out ſparckles, which lighting upon ſome tinder, made either of drie rotten touchwood, or of bunts and withered leaves, very quickly catch fire, and burne not out. And for this intent, there is nothing better than to ſtrike the Yvie wood, with the Bay. In this caſe alſo the wild Vine (I meane not Labruſca) is much commended: and it climbeth and runneth upon trees in manner of Yvie. H I K

The trees that grow in waterie grounds be coldeſt of all others: but ſuch be tougheſt, & therfore beſt to make bucklers and targuets, the wood whereof, if it bee cut, commeth quickly together, and cloſeth up the gaſh again, & in that regard, much adoe there is to pierce it through with any weapon whatſoever. And of this ſort are Fig trees, Willowes, Lindens, Birch, Elder, Aſh, and Poplar. Of all theſe, the Fig tree and the Willow bee lighteſt, and therefore fitteſt for that purpoſe. Theſe trees laſt rehearſed, bee good for caskets and foſſers: wicker baskets alſo and prettie paniers, which be made of winding twigs. Their wood beſides is faire and white, ſtreight alſo and eaſie to be graven. The Plane wood is ſoft and gentle, but moiſt withall; and ſo is the Alder. Elme likewiſe, Aſh, Mulberrie, and Cherry-tree wood, is pliable, but drier and more powderous. The Elme, of all kinds of wood, will keepe ſtreight and ſtiffe beſt, and not warpe at all: and becauſe it twineth and caſteth not, it is paſſing good for hinges and hookes, for ſawne bords, for ledges in dores and gates: ſo as this regard bee had of exchange, that the upper end of the bord which grew toward the head of the tree, bee fitted to the nether hinge or hooke of the dore; and contrariwiſe the butt end, ſerve the higher. The Date tree and the Corke, have a ſoft & tender wood: the Apple tree, Peare tree, and Maple, have as ſad and maſſie; but brittle it is, like as all wood that goeth with a croſſe and frizled graine. And looke what tree ſoever is naturally hard L M

and

A and tough, the wild and the male of the same kind, have their wood more churlish than otherwise it is in the rest. Semblably, those that beare no fruit, are of a faster and firmer wood than the fruitfull: unlesse it bee that the males bee bearers, and the female barren, of which sort are the Cypresse and Cornell trees. The wood of Cypresse, Cedar, Ebene, Lotus, Box, Yewgh, Iuniper, and the Olive both savage and gentle, is never worme-eaten, ne yet rotteth for age. As for all other trees, long it is before these decay, to wit, the Larch, the Oke, the Corke tree, Chestnut and Walnut tree. The Cedar, Cypresse, and Olive wood, never doth chinke or cleave of it selfe, unlesse it be by some accident.

It is commonly thought, that the Boxe, the Ebene, the Cypresse, and Cedar wood, is everlasting and will never be done. An evident proofe thereof as touching all these sorts of timber, by
B the judgement and choise of so many men, was to bee seene in that famous temple of *Diana* in Ephesus: for all Asia set to their helping hand and contributed toward that worke, which in four yeares and not before, they brought to an end and finished. The beames, rafters, and spars that went to the making of the roufe, were by the generall voice of the whole world, of Cedar timber. As touching the statue or image it selfe of the goddesse *Diana*, it is not so certainely known of what wood it was: all writers, save onely *Mutianus*, report that it was of Ebene. As for him, a man who had been thrice Consull of Rome, and one of the last who upon their owne sight of the said thing, wrate thereof, avoucheth that it was made of Vine wood; and that, howsoever the temple was ruined and rebuilt againe no lesse than seven times, yet the foresaid image was never altered nor chaunged. Who saith moreover, that *Canetias* chose that wood for the best (for
C so he named the workman that cut and carved it.) And I much marvell thereat, considering that by his saying this image was of greater antiquitie than that of ladie *Minerva*, much more than of prince *Bacchus*. He addeth moreover and saith, that this statue was embaulmed within, by reason of the precious oile of Spikenard, which was distilled into it at many holes: by meanes of which medicinable liquor, the wood was nourished, and the joints held close and fast together: whereat I cannot chuse but marvell againe very much, that considering the statue was so small, it should have any peece or joint at all. Now as touching the leaves of the dores belonging to this temple, they were by his report, of Cypresse wood: and continued still fresh and new to the eie, notwithstanding it is foure hundred yeares well neare since they were made. Where, by the way, this is to be noted, that these dores stood foure yeares glewed in the clave. And verily, this wood
D was chosen for that purpose, because among other properties, the Cypresse alone hath this gift, to looke alwaies shining and polished, and never loseth the glosse and beautie. And for to prove this, we need not to goe farre: Looke but upon the image of * *Vejovis* in the Capitoll, made of Cypresse wood, doth it not endure still faire and trim? and yet was it dedicated and consecrated in that temple, in the yeare after the foundation of Rome, 551.

* or, *Jupiter*.

A famous and memorable temple there is of *Apollo* at Vtica, where the beames and maine peeces of timber, made of Numidian Cedars, remain as whole and entire as at the first day when they were set up, which was when the citie was first founded: by which computation, they have continued alreadie 1188 yeares. Moreover, it is said, that at Saguntum a citie of Spaine, there is a temple of *Diana* still standing, a little beneath the citie: and yet as king *Bacchus* mine Authour
E saith, 200 yeares before the ruine & destruction of Troy, the same men which brought the image of the said *Diana* from the Iland Zacynthus, founded the temple abovesaid. For the antiquitie and religion whereof, *Annibal* made some conscience to demolish it, and would not once touch it: and therein are to be seene at this day the beames and rafters of Iuniper, sound and good. But above all other, memorable is the temple of the said goddesse *Diana* in Aulis, which was built many hundred yeares before the Trojane warre: but what kind of timber was emploied about the Carpentrie thereof, is not well knowne. Howbeit, this we may boldly resolve upon, that the more odoriferous any wood is, the more durable also it is, and everlasting.

Next to those trees above rehearsed, the wood of the Mulberrie tree is most commended, which in tract of time as it groweth to be old, waxeth also blacke. Moreover, some kinds of wood
F as they be more lasting than other: so they continue better being emploied in one kind of work, than they doe in another. The Elme timber will well abide the aire and the wind. The wild Oke Robur loveth to stand within the ground, and the common Oke is good in the water: let it bee used above ground to take the aire and the weather, it will cast, warpe, and cleave, too bad. The Larch wood agreeth passing well with water workes, and so doth the black Alder. As for the Oke

Robur,

Robur, it will corrupt and rot in the sea. The Beech will doe well in water, and the Walnut tree likewise: but to stand within the earth, they are principall good, and have no fellow. And for the Iuniper, it will hold the owne, being laid under ground: but for building above in the open aire, it is excellent good. The Beech and the Cerrus wood rot quickly. The small Oke called Esculus cannot abide the water. The Cherrie tree wood is firme and fast: the Elme and the Ash are tough; howbeit, they will soone settle downeward and sag, being charged with any weight, but bend they will before they breake: and in case before they were fallen, they stood a while in the wood, after they had a kerfe round about, for their superfluous moisture to run out untill they were well dried, they would be the better & surer in building. It is commonly said, that the Larch wood if it be put into ships at sea, is subject to the worme: like as all other kinds of wood, unlesse it be the wild and tame Olive. For to conclude, some timber is more readie to corrupt & be marred in the sea, and others againe upon the land. G H

Chap. xli.

Of wormes that breed in wood.

OF vermine that eat into wood, there bee foure kinds. The first are called in Latine Teredines: a very great head they have for the proportion of the bodie, and with their teeth they gnaw. These are found onely in ships at sea, and indeed properly none other bee Teredines. A second sort there bee, and those are land wormes or mothes, named Tineæ. But a third kind resembling gnats, the Greekes tearme by the name of Thripes. In the fourth place bee the little wormes: whereof some are bred of the putrified humour and corruption in the verie timber: like as others againe engender in trees, of a worme called Ceraستes: for having gnawne and eaten so much, that hee hath roume ynough to turne him about within the hole which he first made, hee engendreth this other worme. Now, some wood there is so bitter, that none of these vermine will breed in it, as the Cypresse: others likewise so hard, that they cannot eat into it, as the Boxe. It is a generall opinion, that if the Firre bee barked about the budding times, at such an age of the Moone as hath been before said, it will never putrifie in the water. Reported it is by those that accompanied *Alexander* the great in his voiage into the East, that in the Island Tylos lying within the red sea, there be certain trees which serve for timber to build ships, the which were knowne to continue two hundred yeares: and being drowned in the sea, were found with the wood nothing at all perished. They affirmed moreover, that in the same Island there grew little plants or shrubs, no thicker than would well serve for walking staves to carie in a mans hand, the wood whereof was massie and ponderous, striped also and spotted in manner of a Tygres skin; but so brittle withall, that if it chaunced to fall upon a thing harder than it selfe, it would breake into fitters like glasse. I K

Chap. xlii.

Of timber good for Architecture and Carpentrie: what wood will serve for this or that worke: and which is the strongest and surest timber for roufes of building. L

WEe have here in Italie, wood and timber that will cleave of it selfe. For which cause our Maister Carpenters give order to besmeare them with beasts dung, and so to lie a drying, that the wind and piercing aire should not hurt them. The joists and plankes made of Firre and Larch, are very strong to beare a great weight, although they bee laid in length overthwart. Contrariwise, the rafters made of the wild Oke Robur, and Olive wood, will bend, and yeeld under their load: wheras the other named before, do resist mainly and withstand, neither will they easily breake, unlesse they have much wrong: nay sooner doe they rot, than faile otherwise in strength. The Date-tree wood also is *tough and strong, for it yeeldeth not, but curbeth the contrarie way. The Poplar setleth and bendeth downeward: whereas the Date-tree contrariwise riseth upward archwise. The Pine and the Cypresse are not subject either to rottennesse or worme-eating. The Walnut-tree wood soone bendeth, and is saddle-backt as it lieth, (for thereof also they often use to make beames and rafters) but before that it breaketh, it will give warning by a cracke; which saved many a mans life in the Island Antandros, at what time

*Valida, ex Theophrast. M

A time as being within the common baines, they were skared with the cracke that the floore gave, and ran forth ſpeedily, before all fell. Pines, Pitch trees, and Allar, are very good for to make pumps and conduit-pipes to convey water; and for this purpoſe their wood is boared hollow: lying buried under the ground, they will continue many a yeare ſound and good; let them be uncovered without any mould and lie above-ground, they will quickely decay. But if water alſo ſtand above the wood, a wonder it is to ſee how they will harden therewith and endure. Firre or Deale wood, is of all other ſureſt and ſtrongeſt for rouſes above head: the ſame alſo is paſſing good for dore leaves, for bolts and barres: alſo in all ſeelings and wainſcot whatſoever it be, whether Greekiſh, Campaine, or Sicilian, it is the beſt, and maketh very faire worke. A man ſhall ſee the fine ſhavings thereof run alwaies round and winding, like the tendrils of a vine, as the
B Ioyner runneth over the painels and quarters with his plainer. Moreover, the timber of it is commendable for coches and chariots. And there is not a wood that maketh a better and ſtronger joynt with glew, than it doth: inſomuch, as the ſound planke will ſooner cleave in any other place, than in the joynt where it was glewed.

Chap. xliii.

Of glewing timber: of rent, cloven, and ſawen painell.

GReat cunning there is in making ſtrong glew, and in the feat of joyning with it, as well in regard of ſeelings and wainskot made of thin bourd and painell, as of marquetrie & other
C inlaid workes: and for this purpoſe, Ioyners doe chuſe the miſtreſſe threadie graine that is moſt ſtreight, which ſome call the Fertill veine, becauſe ordinarily it breedeth others; and yee ſhall ſee it braunching and curled, as if it ſhed teares and thoſe trickling downe. In every kind of wood whatſoever, the criſped graine will not take glew and bear a joynt. Some wood it is impoſſible to glew and joyne, with peeces of their owne kind, much leſſe of other wood: as the hard oke Robur. And lightly yee ſhall not have peeces of a divers nature, knit and unite well in a joint, no more than if a man ſhould goe about to glew and joyne ſtone & wood together. The Serviſe tree wood cannot in any wiſe ſort in a joynt with the Corneill wood; no more can the Horne-beame and the Box: after them, the Tillet or Linden wood may hardly away with his ſocietie. To ſpeake generally, whatſoever wood is gentle and apt to bend, (ſuch as we call pliant) the ſame is
D good and eaſie to bee wrought to any worke that a man would have: to which, you may put the Myrtle and wild Fig-tree. Durable and handſome withall, either to bee cut, ſquared, cloven, or ſawen, are all thoſe kinds of wood which be by nature moiſt. As for drie peeces of timber, they give not way ſo faſt to the ſaw, as greene: and yet you muſt except the Oke and the Box wood, which although they be greene, doe ſtiffely withſtand the ſaw-gate, choking and filling up their teeth even; by which meanes the ſlit is hindred, and the worke goeth not forward: which is the cauſe alſo that the ſawyers draw up and let downe the ſaw twice, before the teeth ſend from them any duſt into the pit. As for the Aſh, it is moſt eaſie to be wrought, put it to what uſe you will, and maketh the faireſt worke: and namely for horſemens ſtaves, better it is than Hazell, lighter than the Corneil, and more gentle and pliable than the Serviſe wood. The French white Aſh, it will
E bend well for cart-thills and fellies. The Elme would be very like vine-wood, but that it is more ponderous and heavie. The Beech is eaſie to bee wrought into any forme, brittle though it be and tender: yet thereof are made fine trenchers, thin ſhindles, and ſuch like, as will wind & bend every way: and therefore it is the only wood commendable for to make pretie caskets, paniers, and boxes. The maſt-Holme alſo may be cut into fine thin foile or leaves like plates, and thoſe alſo are of a daintie and pleaſant colour: but ſingular good is the wood thereof for ſuch things as fret and weare with rubbing, and namely, the axeltrees in wheeles: and as the Holme (I ſay) is fit for this purpoſe in regard of the hard wood; ſo the Aſh likewiſe, becauſe it is ſo lyth and pliable: in which two reſpects, the Elme is choſen before them both. Moreover, the wood of theſe trees before-named, are notable to make many pretie tooles that ſerve artizans in their daily
F worke: and therefore it is commonly ſaid, That the wood of the wild Olive, Box, maſt-Holme, Elme, and Aſh, are excellent good for augre-handles and wimble-ſtocks. Of the ſame alſo are made mallets; but beetle heads of the bigger ſort, of the Pine and Holme. A great reaſon why theſe kinds of wood are the more tough & harder, is when the trees have their right ſeaſon, and be cut downe in their beſt time, rather than too ſoone and before they are come to maturitie.

Thus it hath been knowne that doore-hinges and hookes made of Olive wood (which otherwise G
is most hard) if they have rested any long time, and not been worne by shutting and opening too and fro, have put forth fresh buds, as if they had growne still in the plant. As for dore-barres and bolts, *Cato* would have them made of Holly, Bay-tree, and Elme. The handles and helves of rusticall tooles, mattocke steles, and spade trees, *Hyginus* willeth they should be either of Hornebeame, Holme, or Cerrus. For fine painell in fret-worke, for seeling also and overlaying other wood, these are the chiefe, the Citron, Terebinth, Maple of all sorts, Boxe, Date tree, Hulver, Holme, Elder root, and the Poplar. The Alder tree likewise (as hath been said) doth affourd certaine swelling bunches and hard knots, which may be cut and cloven into most daintie flakes and pretious leaves, as faire and pleasant to the eye for their damaske braunch, as either Citron or Maple: serting which three aside, there be no knurres and nodosities in any tree worth ought H
and of account.

Moreover, ye shall have trees ordinarily in the mids toward the heart, carie a more crisped and curled wood; and the nearer it is to the butt or root end, the finer is the graine, more braunching also, and the streakes winding in and out. Loe, from whence first came the superfluous expence to cover and seele one wood with another! See how those trees which for their very wood were of no price, are become more costly and deerer, when they serve as a barke to clad others! that one tree forsooth by this means, should be sold many and sundrie times at a severall price. Thus have been devised (I would not else) thin leaves of wood, like gold or silver-foile. And yet that is not all: for there is come up of late a devise, to paint and die in sundry colours the hornes of beasts, to cut and saw their teeth into thin plates: and whereas at first there was fret-works only inlaid and set out with Ivorie here and there, soone after it came to passe, that the wood was I
covered all over therewith. Neither hath the royot and wastfull prodigalitie of the world staied there, but proceeded farther, even to search into the deepe sea for that, which might serve in stead of wood and timber. Thus the Tortoise shell hath been cut into flakes and leaves, for want forsooth of wood upon drie land. And now of late daies, certaine monstrous spirits, during the Empire of *Nero*, have found out a devise to disfigure the Tortoise shell also with paintings, that it might be sold the deerer when it lookt like wood. Thus meanes are wrought, that the price of beds should be raised and set up by this means: thus they would have the Terebinth wood to be excessive deere and above the woorth: thus must the Citron wood be enhaunsed to an higher rate: and thus the Maple is counterfeited, Tortoise shels are foisted in the place and bought for K
it. To conclude, of late daies the curiositie of men was such, that they could not content themselves with rich and costly wood; and now for to beautifie and set out their wood, Tortoise shels must needs be bought, there is no remedie.

Chap. xliiii.

The age of trees: what kind of trees they be that are of least continuance. Semblably of Misselto, and the Priests called Druidæ.

IF a man would consider the hidden corners of the world, and the inaccessible desarts that be in it, he might by infallible arguments conclude and resolve, that there be some trees which L
have continued time out of mind, and lived infinitely. But to speake of their age only that are knowne (even by the testimonie of auncient records, & those faithfully delivered unto us) there are to be seen standing and growing at this day, about Linternum (a town in Campaine) certain Olive trees, which *Scipio Africanus* (the first of that name) planted long since with his own hand. In the same place also there is a Myrtle tree, of a rare and admirable greatnesse; and under it, a cave or hole in the ground, wherein (by report) there lyeth a dragon that keepeth the ghost and soule of the said *Scipio*. And at Rome, in the court-yard belonging to the chappell of goddesse *Diana Lucina*, there is yet to be seene a Lote tree standing before the said chappell, built in the yeare of the Anarchie, what time as Rome stood desolate of all magistrates, and that was 369 yeares after the foundation of the citie: but how much more auncient this tree is than the said M
temple, God knoweth: for, elder it is without all question, considering that of the grove or tuft of trees there growing, which the Latins call Lucus, the said goddesse *Diana* tooke her name * *Lucina*. Now is it 450 yeares or thereabout, since that time, and so old it is doubtlesse. Another Lote tree there is and elder than that, but the age thereof is likewise uncertein: known it is

* *Gratia Lucinæ dedit hæc tibi nomina Lucus.* Ovid.

by

A by the name Capillata, [*i.* hairie:] so called, because the haire of the vestall Nuns heads is usually thither brought, and there consecrated. And yet is there a third Lotus at Rome in the court-yard and cloister about the temple of *Lucane*, which *Romulus* built for a perpetuall monument and memoriall of a victorie, and defraied the charges out of the tenths of the pillage and spoile that hee woon from his enemies; and this tree is at least full as old as the citie of Rome, if it be true that *Massurius* writeth. The roots thereof, passing along the street where the Burgeoises use to keepe their residence, doe reach as farre as the stately market-place or Hall of *Cæsar*. There grew by it a Cypresse tree also of the same age, the which by an oversight and careless neglect, fell downe no longer since than the last yeere of *Nero* the Emperour. But why stand wee long hereupon? there is an Holme growing in the Vaticane, elder than Rome it selfe, with a plate of
B brasse upon it engraven in Tuscane letters, containing an inscription or title: whereby it appeareth, that even in those daies the said tree for antiquitie, was worthie of peoples devotion. Moreover, it is well knowne, that the Tyburtines are more auncient than the Romans, and their citie Tybur founded many a yeare before Rome: and yet certaine it is, that there bee yet three Holmes there remaining alive, elder than *Tyburtus* himselfe, their first founder: upon which trees (as the voice goeth) hee observed the flight of birds, and thereby tooke his auspices and warrant from the gods to build the said citie. And (by report) the sonne he was of *Amphiaraüs*, who died at Thebes an hundred yeares before the Trojane warre. Writers there be who affirme, that both that Plane tree which groweth before the temple of *Apollo* at Delphos, was set by king *Agamemnons* owne hand: as also another in the sacred grove of Caphys in Arcadie. Further-
C more, at this day, there be trees near unto the streight of Callipolis, sometime called Hellespontus, over-against the citie of the Ilians, where old Troy stood, growing close unto the tombe or sepulchre of *Protesilaus*: which every fourteen yeares so soon as they are shot up so tall only as they may seeme to discover and see the citie Ilium, immediatly begin to wither and fade; & afterwards spring againe and grow anew unto that age and height aforesaid. Hard by the citie of Ilium, there be certaine Okes also (as folke say) neare unto the tombe of *Ilus*, which were then planted or set of acorns, when Troy began to be called Ilium. It is reported moreover, that the Olive tree remaineth yet alive at Argos, unto which *Argus* tied ladie *Iö*, after shee was transformed or turned into an Heifer. About Heraclea in Pontus, there be certaine altars erected to the honour of *Iupiter* surnamed *Stratius*, over which there stand two Okes, both set by the hands of
D *Hercules*. In the very same tract there is an haven, ennobled and renowmed by the name of *Amycus* the K. of the Bebrycians there slaine. His tomb, from the very day of his sepulture, hath ben overshadowed with a Bay tree (planted there and then for that purpose) which the people of that countrey doe call The raging or mad Lawrell; for plucke but a braunch or twig thereof be it never so small, and carie it into a ship, all the mariners & passengers within, will fall a brawling, and never agree untill it be cast out and throwne away out of the vessell, which was brought thither from the tree aforesaid. Of a certaine region we have before written, called Aulocrene, lying in the way betweene Apamia and Phrygia; and there the paisants of that countrey can shew you that very Plane tree, on which *Marsyas* the musician hung himselfe in a melancholly mood, for that he was overmatched in his owne cunning and professed skill, by *Apollo*: and surely like it is,
E that even then he made choise of that tree for the bigneſſe. Over and besides, in the Iland Delos, there is a Date tree to be seen, which hath remained there ever since that the said god *Apollo* was borne and reared there. The wild Olive tree at Olympia (whereof *Hercules* ware the first coronet or guirland) is kept and tended still with great devotion. The very same Olive tree also (by folkes saying) continueth this day at Athens, which sprung up at the very time that *Minerva* and *Neptune* strove togither about giving the name to the citie of Athens. And thus much of long-lived trees.

Contrariwise, Pomegranat trees, Fig trees, and Apple trees, live a very short time: & of these, the hastie kind or Ienitings, continue nothing so long as those that bear and ripen later: neither yet those that carie sweet fruit, last so well as they that bring foorth sower. The Pomegranat tree
F also with the more pleasant fruit, is shorter lived than the other. The like is to bee said of Vines, and namely, such as bear greater burden of grapes and yeeld most wine. Howbeit *Græcinus* saith, That there have been vine trees knowne to live threescore years. It seemeth also, that trees which come up in waterish and moist places, are not of any long continuance, but soone die. In deed Bay trees, Apple trees, and Pomegranat trees, do age & looke old quickly; howbeit, they spring

freſh againe from the root. Well then, the Olive trees hold out life and live very long: for after G
the common opinion and agreement of all writers, they continue ordinarily 200 years. There is a little hill named Carne within the territorie of Tuſculum, not far from Rome citie ſide, clad and beautified with a goodly grove and tuft of Beech trees, ſo even and round in the head, as if they were curiouſly kept, cut, and ſhorne artificially with garden ſheares: which grove was conſecrated in old time to *Diana*, by the common conſent of all Latium, which did their devotions there. In it there was one eſpeciall faire tree above the reſt, which *Paſſienus Criſpus*, a man in our daies of great authoritie (as having been twice Conſull in his time, and reputed an excellent Oratour, who alſo afterward mounted to higher place of reputation by marrying *Agrippina* the Empreſſe, by which match he became father in law to *Nero* the Emperour) caſt a fancie and extraordinarie liking unto: inſomuch as he was wont not onely to take his repoſe and lie under H
it, to ſprinkle and caſt wine plentifully upon it, but alſo to clip, embrace, and kiſſe it otherwhiles. Neare adjoyning as a neighbour to the ſaid grove, there is an Holme, which of it ſelfe alone is much renowmed: it beareth in compaſſe about the butt thereof 35 foot, and ſendeth out ten monſtrous big armes from the bodie, which may goe well enough for as many trees, and thoſe every one ſo great as it is wonderfull. Surely this one tree alone (a man would ſay) reſembled a whole woood.

Moreover, there is nothing more certaine than this, that Ivie killeth trees. The like is to be ſaid (in ſome ſort) of the Miſſelto, although it is generally thought, that the harme thereby is not ſo ſoon ſeen. And this you muſt thinke, that this Miſſelto is not to be taken for the fruit of a tree, and therefore as great a wonder it is in nature, as any other: for ſome things there be, that I
not willing to grow out of the earth, engender in trees; and having no proper place of their own habitation to ſeat themſelves in, ſojourne as it were and make their abode with others, and of this nature is the Miſſelto. Alſo, in Syria there is a certaine hearbe named *Cadytas, which windeth about, not trees onely, but alſo very buſhes and thornes: likewiſe, all about the pleaſant vale Tempe in Theſſalie, you ſhall have a kind of Ferne called Polypodie, to doe the ſame: alſo, the Pulſe named Dolychos, which is Faſels or Kidney beanes, and the wild running-laced Thyme, Serpyllum. Semblably, that which the Greeks call Phaunos: the very ſame, that after a man hath cut and proined the wild Olive, engendreth thereupon. The like is to be ſaid of Hippopheſton, which groweth upon the Fullers thorne or thyſtle: it beareth certaine little heads and hollow knobs with nothing in them, ſmall leaves, and a white root: the juice whereof is ſingular good to K
evacuate and purge the bodie, for the diverſion of ill humors, in the falling ſickneſſe. But to returne againe to Miſſelto, there bee three kinds thereof. For that which groweth on the Firre and Larch tree, is called Stelis in Eubœa, and Hyphear in Arcadia. And as for that, which properly is Miſſelto indeed, moſt men are of opinion, that it groweth faſt to the common Oke, the wild Robur, the Holme, wild Plumtree, and the Terebinth, & not lightly upon any other trees. Howbeit, in greateſt plentie it is ſeene upon the Oke, and that is named Dryos Hyphear. A difference there is in the Hyphear and Miſſelto, on what tree ſoever they are found (except the Holme and common Oke) in regard of the ſavor, which is ſtrong & ſtinking in the one more than the other. The leafe in them both hath no pleaſant ſmell, and in the Miſſelto it is bitter, clammie, and viſcous beſides. Of the twaine, Hyphear yet is the better to feed ſheepe and ſuch cattell fat: only at L
the firſt it purgeth yll humors, and maketh them to ſcoure apace, but afterwards it fatteth them; I meane ſuch as were able to beare the ſaid purgation. But in caſe any of them were deepely tackt and infected with the rot, or other inward conſuming diſeaſe, they can never endure the taking of the ſaid Hyphear, but they die upon it. The onely fit time for this kind of curing them, by the way of purging, is in Summer, & that for fortie daies ſpace together. There is moreover, by mens ſaying, another difference in Miſſelto: for that which groweth upon trees, ſhedding their leaves in winter, looſeth alſo his owne leaves; but contrariwiſe, it continueth alwaies greene upon ſuch trees as hold their leaves all the yeare long. Moreover, ſet or ſow this Miſſelto which way ſoever you will, it will never take and grow: it commeth onely by the mewting of birds, eſpecially of the Stockdove or Quoiſt, and the Blackbird, which feed thereupon, and let it paſſe through their M
bodie. And this is the nature of it, unleſſe it bee mortified, altered and digeſted in the ſtomacke and belly of birds, it will never grow. It exceedeth not at any time a cubit in heigth, notwithſtanding it be alwaies greene and full of braunches. The male beareth a certaine graine or berry: the female is barrain and fruitleſſe. But ſometimes neither the one nor the other beareth at all.

* Some take this for *Caſſutha*, or *Cuſcuta*, *i.* Doder.

Now

A Now as touching Birdlime, it is made of the berries of Miſſelto, gathered in harveſt time before they are ripe; for if they ſhould tarie ſtill to take ſhowres of raine, well might they thrive and encreaſe in bigneſſe, but their ſtrength and vertue would be gone cleane, for ever making any ſuch glew or birdlime aforeſaid. Beeing ſo gathered, as is beforeſaid, they muſt be laid abroad a drying, and when they be once drie, they are braied or ſtamped, and ſo put in water to ſteep, and let to putrifie for the ſpace of twelve daies or thereabout. This one thing yet in the whole world is the better for putrefaction, and ſerveth to good purpoſe. When this is done, the ſaid berries thus putrified and corrupt, are beaten or punned once againe with mallets, in running water; by which meanes when they are husked and turned out of their skins, the fleſhie ſubſtance within, becommeth glutinous and will ſticke too, in manner of glew. This is the way to make birdlime
B for to catch poore birds by their wings, entangled therewith; which fowlers uſe to temper and incorporate with the oile of Walnuts, when they liſt to ſet limetwigs to take foule.

And foraſmuch as wee are entred into a diſcourſe as touching Miſſelto, I cannot overpaſſe one ſtrange thing thereof uſed in Fraunce: The Druidæ (for ſo they call their Divinours, Wiſe men, & the ſtate of their Clergie) eſteeme nothing more ſacred in the world, than Miſſelto, and the tree whereupon it breedeth, ſo it be on Oke. Now this you muſt take by the way, Theſe Prieſts or Clergie men choſe of purpoſe ſuch groves for their divine ſervice, as ſtood only upon Okes; nay they ſolemnize no ſacrifice, nor perform any ſacred ceremonies without branches & leaves thereof, ſo as they may ſeeme well enough to be named thereupon Dryidæ in Greeke, which ſignifieth as much as the Oke-prieſts. Certes, to ſay a truth, whatſoever they find growing upon that
C tree over and beſides the owne fruit, be it Miſſelto or any thing elſe, they eſteeme it as a gift ſent from heaven, and a ſure ſigne by which that very god whome they ſerve giveth them to underſtand, that he hath choſen that peculiar tree. And no marveile, for in very deed Miſſelto is paſſing geaſon and hard to be found upon the Oke; but when they meet with it, they gather it very devoutly and with many ceremonies: for firſt & foremoſt, they obſerve principally, that the moon be juſt ſix daies old (for upon that day they begin their moneths and new yeares, yea and their ſeverall ages, which have their revolutions every thirtie yeares) becauſe ſhee is thought then to be of great power and force ſufficient, and is not yet come to her halfe light and the end of her firſt quarter. They call it in their language All-Heale, (for they have an opinion of it, that it cureth all maladies whatſoever) and when they are about to gather it, after they have well and duly pre-
D pared their ſacrifices and feſtivall cheare under the ſaid tree, they bring thither two young bullocks milke white, ſuch as never yet drew in yoke at plough or waine, & whoſe heads were then and not before bound, by the horne: which done, the prieſt arraied in a ſurpleſſe or white veſture, climbeth up into the tree, and with a golden hook or bill cutteth it off, and they beneath receive it in a white ſouldiours caſſocke or coat of armes: then fall they to kill the beaſts aforeſaid for ſacrifice, mumbling many oraiſons & praying devoutly, That it would pleaſe God to bleſſe this gift of his to the good and benefit of all thoſe to whome he had vouchſafed to give it. Now this perſuaſion they have of Miſſelto thus gathered, That what living creature ſoever (otherwiſe barraine) doe drinke of it, will preſently become fruitfull therupon: alſo, that it is a ſoveraign countrepoiſon or ſingular remedie againſt all vermine. So vaine and ſuperſtitious are many nations
E in the world, and oftentimes in ſuch frivolous and fooliſh things as theſe.

F

THE XVII. BOOKE OF THE HISTORIE OF NATVRE, WRITTEN BY C. PLINIVS SECVNDVS.

CHAP. I.

The wonderfull prices of some trees.

AS touching the nature of all those trees, which of their owne accord doe grow, as well upon the maine land as the sea coasts, we have already treated sufficiently. It remaineth now to discourse of those, which (to speake more truly and properly) are made rather and forced by Art and wit of man, than otherwise come by nature and of themselves. But before I enter into this treatise, I cannot chuse but marveile how it is come to passe, That those trees, which for necessitie & need we having taken from the wild and bruit beasts, and possessed in common with them (considering that men maintaine fight and scramble with them for the fruits that fall, yea and otherwhiles with the foules of the aire, about those which hang upon the tree) should grow to so excessive a price, as to be esteemed among the principall delights and dainties of this world? And that this is so, appeareth by that most notable example (in mine opinion) of *L. Crassus* and *Cn. Domitius Ænobarbus*. This *L. Crassus* (a right renowmed Oratour of Rome as any one of his time) had a stately and sumptuous dwelling upon mount Palatine: howbeit that house of *Q. Catulus* (who defeated in battaile the Cimbrians togither with *C. Marius*) went beyond it a faire deale in magnificense; and stood likewise within the pourprise of the same mount. But the goodliest and fairest pallace known in that age, was that of *C. Aquilius* a gentleman or knight of Rome, situate upon the hill of Osiers, called Viminalis: in regard whereof, there went a greater name of him, than for all the skill hee had in the civile Law, which was his profession. Yet of all those three, *Crassus* only was challenged and reproched for that foresaid house of his. And in this manner is the storie delivered: *Crassus* and *Domitius* (great personages both, and descended from most noble houses in Rome) after they had been Consuls, happened also to be chosen Censors together: and this fell out to be in the yeare after the foundation of the citie 662: but during this magistracie of theirs, there passed many a foule day and bitter fit between them; so dissonant were their natures, & their conditions so farre unlike. Now it fortuned upon a time, that *Cn. Domitius* (as he was a hot and hastie man by nature, & carried an inward hatred besides in his heart, which soon is kindled & set on fire, yea & most insatiable, upon emulation & envie between concurrents, such as they two were) reproved *Crassus* very sharply for his excesse in expence, & namely, that any Censor of Rome should dwell in so stately and sumptuous a palace as he did; and ever and anon made offer to buy the house, and pay him downright for it *100 millions of Sesterces: whereat *Crassus* (being a man quicke of spirit, of a prompt and present wit, finely conceited withall, and not to seeke for a readie answer) tooke him at his word and accepted of the offer; reserving onely sixe trees that grew about his house. Tush quoth *Domitius*, replying againe, take those trees away, and take all; if they be gone, I will none of the house though I might have it for a single denier. Then *Crassus*, having gotten the vantage and start of him, rejoyned & came upon him thus: Tell me now, I pray you, good *Domitius*, whether of us twaine giveth a scandalous example to the world? whether am I my selfe (I say) offensive, and deserve to be taxed & noted by mine owne Censorship, who can be content to live quietly & lovingly among my neighbours in mine owne house, and that house which came to me by way of inheritance from my father;

* *Millies Sestertium.* An incredible price for a dwelling house: & therfore as *Budæus* thinketh, this place must be corrected, by conference with *Val. Max.* who for (*millies*) hath (*sexagies*) which amounteth little more thā to the 20 part of the other summe.

A father; or you rather, that for six trees bid 100 millions of Sesterces? Now, if a man bee desirous to know, what these trees might be? truly they were no other but sixe Lote trees, very faire and beautifull indeed, but there was nothing in them commendable, save only their spreading & casting a goodly shade. And verily, *Cæcina Largus*, a Nobleman & principall citizen of Rome, used many a time and often (I remember well) to shew me when I was a young man, those trees about his house. And since our speech hath been of such trees as live very long, these I wote well, continued for the space of 180 yeares after *Crassus* death, unto the great fire that *Nero* caused to bee made for to burne Rome; fresh and greene they were with good keeping, and looked young still, like to have lived many a faire day more, had not that Prince hastened the untimely death even of trees also [as well as of cittizens.] Now least any man should thinke, that all the sumptuositie of
B *Crassus* consisted onely in those trees, and that the furniture otherwise of his house was but mean and simple, and could minister unto *Domitius* no matter of such contesting and reproose, disposed as he was to quarrell and find fault: Know he thus much, That the said *Crassus* had before that time set up in the open hall of that house, foure goodly pillars of Hymettian Marble; which in the yeare of his Ædileship were brought abroad to enrich and beautifie the Theatre, the Stage and Shew-place of the solemne plaies by him set out: for as yet there had not been in publicke place at Rome any marble pillar seene. Loe how lately is come up this excessive expence in rich and glorious building, so common in these daies. See (I say) how in those times, faire trees beautified pallaces more than any thing else; insomuch, as *Domitius* for the want of six trees onely, would not stand to the price that himselfe first made, nō not to buy his very enemie out of house
C and home with it. But no marvell if trees were accounted of so highly, seeing that our ancestors in old time thought not scorne to take otherwhiles their surnames from them. Thus that brave and valiant souldiour came to be named *Frontitius*, who (maugre the beard of *Annibal*) swum over the river Vulturnus, with a chaplet of greene leaves (answereable to his name) set upon his head, and performed many feats of armes and worthie exploits against him. Thus they of the noble *Licinian* familie had for their addition *Stolons* (that is to say, the unprofitable watershoots that put forth from the root or tree it selfe, and never prove or come to any good.) And why so? For that one of the said house devised the meanes to cleanse trees and vines of such superfluous twigs (the practise and feat of cutting which away, is called Pampinatio) and thereupon was one *Licinius* first surnamed *Stolo*. Moreover, our predecessors in auncient time made good statutes
D and ordinances for the maintenance of trees: and expressely provided it was by the lawes of the twelve Tables at Rome, in these words, *That whosoever made wilfull wast, and cut downe any trees growing in another mans ground, should be pained in the court for a trespasse done; and forfeit for every such tree, five and twentie pound of brasse money.* But what should we thinke of this? Did those lawmakers, trow yee, suppose or imagine that other wild trees would ever have growne to that high reckoning abovenamed, and which now they are come unto, who valued fruitfull trees at no greater price, & set the penaltie for the trespasse, so low? But never marvell we any more hereat, considering to what a proportion Apple-trees and such like are risen unto. For there bee many of them here about the citie of Rome, in the villages near adjoining, which are set for a yearly rent of two thousand Sesterces; and one of them yeeldeth more profit and revenue by the year to the
E owner, than a pretie ferme in times past of good domaine, to the landlord. Hereupon came the invention of grafting trees: for this purpose have wee such bastard fruits entermingled one with another, of sundrie kinds; as if Apples and other fruits were not for poore men to eat, but grew onely for the rich. Hence forward now therefore will we shew the right, perfite, and absolute manner how to order and cherish them, that it may appeare by what meanes especially, such annuall commoditie can bee made of them, as is before said. For the better performance of which discourse, I meane to leave the common and ordinarie way; neither will I handle the usuall and vulgar manner of that point in husbandrie, wherein every man is perfect, and whereof no man maketh question: but deliver such matters onely, as be uncertaine and doubtfull, whereby oftentimes folke are deceived and beguiled. For, to breake my head or busie my braines in needlesse
F trifles, and therein to affect a kind of curiositie, was never my manner yet, nor is it any part of my meaning and intention now. But before I doe enter into particulars, my purpose is to treat in generalitie of this matter, and touch breefely the consideration of heaven and earth both, so farre forth as may concerne in common all kinds of trees whatsoever.

CHAP.

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Chap. 11.

Of the nature of the Skie respective unto trees: and what quarter thereof they should regard.

TRees generally doe like best that stand to the Northeast wind: for it nourisheth them well, causeth them to spread thicke and grow every way in length and breadth, and withall maketh the timber more fast and strong. But in this rule most men doe erre, and be much deceived: for in underpropping Vines, the forkes would not bee set opposite against that wind to hinder the blast thereof; a point that is to be observed in regard of the North wind onely. Moreover, wee find by experience, that if trees have a kindly winter and cold season in their due time, H their wood will be more firme, and so likewise will they bud and shoot out best: otherwise, if the warme Southerne winds blow upon them much, yee shall have the trees prove soft and feeble, and their blossomes come to nothing, blouming as they doe before time. For if it chaunce, that presently after their flowers be fully out and readie to shed, there fall any store of raine, the fruit is quite gone for that yeare. And as for Almond trees and Peare trees, if it be but close and cloudie weather onely, without any raine, or the wine stand South when they flower, sure they bee to loose their fruit. Certes, a glut of raine in May, at what time as the Brood-hen star called Virgiliæ doth arise, is exceeding hurtfull to Vines and Olive trees: for then is the very season of their knitting or conception. Then bee the foure decretorie or criticall daies, that give the dome of Olive trees, either to good or bad: this is the Southerly point of filthie, foule, and glowmie weather, I whereof wee have spoken before. Moreover, all manner of graine feeleth the inconvenience of Southerne wind at the time of their ripening. Well may corne make haste and ripen sooner, but it shall never have the kind maturitie and perfection as it ought. As for the cold pinching black frosts and Northerne winds, which blow out of season, come they early or come they late, they be hurtfull all. But if the wind stand Northeast in winter, there is nothing so good generally for all fruits of the earth. And verily, a good shower now and then during that time, will do no harm; and that men wish for raine then, the reason is evident: for why? trees with bearing of fruit, are drawne drie and have lost their naturall moisture, with shedding their leaves, they bee poore and feeble; so that it is kind for them to be hungrie then, and to have a greedie appetite to new food, which is raine. Now if the winter be open and warme withall, that so soone as the trees have done K bearing, they rest not betweene, but conceive againe presently upon it (that is to say, bud & spurt anew, yea, and fall afresh to blossome, whereby they have another evacuation that way also, to spend their sap and radicall moisture) we find by experience, that there is nothing in the world so bad for them. Nay, if many such yeares come together, immediately one after another, the verie trees themselves will die; for who can looke for better, when they are thus pined and famished? He then *whosoever he was that said, Husbandmen were to wish for faire winters: surely hee was *Virgil. no friend therein to trees, nor never praied for them: neither are wet midsummers good for Vines. But in truth, That winter dust should cause plentifull harvest, was a word spoken in a braverie, and proceeding from a pregnant wit and jollie spirit: For otherwise, who knoweth not, that every man (wishing well to trees and corne indifferently) praieth, That snow might lie long upon L the ground? The reason is, for that not only it keepeth in and encloseth the vitall breath & soule (if I may so say) of the earth, readie to exhale out and vanish away, yea, and driveth it back again into the blade and root of corne, redoubling therby the force and vigor thereof: but also because it both yeeldeth liquour and moisture thereunto gently by little and little, and the same withall fine, pure, and passing light: considering, that snow is nothing else but the fome or froth of raine-water from heaven. This humor therefore, not falling forcibly all at once to drowne the root, ne yet washing away the earth from it (but distilling drop-meale a little at once, in that proportion and measure as thirst requireth and calleth for it) nourisheth all things, as from a teat or pap; nourisheth (I say) and neither drencheth nor overfloweth them. The earth also for her part, by this meanes well soaked, swelleth and hooveth as it were with a leaven, and lieth thereby more light M and mellow: thus being full of juice and moisture it selfe, & not barren, but well replenished with seeds sowne, and plants suckled, thus continually in her womb; when the open time of the spring is once come to discharge her, she sheweth her selfe fresh and gay, and willingly entertaineth the warme weather of that season.

By

A By this meanes eſpecially, we ſee how corne liketh well upon the ground, and thriveth apace every where, unleſſe it be in climates where the aire is alwaies hote, as in Ægypt. For continuance and ordinarie cuſtome alone effecteth the ſame there, which the ſeaſon of the time, & moderate temperature of the aire elſewhere. And in one word, bee the place whatſoever, paſſing good it is to keepe away the thing that is hurtfull. For in the moſt parts of the world it happeneth, That when either corne is winter-prowd, or other plants put forth and bud too earely, by reaſon of the mild and warme aire; if there follow any cold weather upon it, all is nipped, blaſted, and burnt away. Which is the cauſe, that late winters doe harme unto the wild trees alſo in the forreſt. The more paine and ſorrow likewiſe ſuch trees abide, by reaſon of their owne thick branches ſhading one another, and not eaſily admitting the warme Sunne; and deſtitute they are be-
B ſides of mans helping hand to cure them: for growing as they doe in wild and deſart forreſts, impoſſible it is to lap and wrap them about with wreaths and thumb-ropes of ſtraw, and ſo to cheriſh and defend them when they bee yong and tender. Well then, to conclude this matter, Winter raine principally is ſeaſonable and good for all plants: and next to it the dewes and ſhowers that fall immediately before their ſprouting time. A third ſort alſo there be of ſhowers that come when fruits hang on the tree, and are in their growth, yet not too ſoone, namely, before they bee ſtrong and able to abide ſome hardneſſe.

As touching trees which be late-ward and keepe their fruit long ere they ripen, ſuch alſo as require ſtore of nouriſhment and more food ſtill, as namely, the Vine, the Olive, and Pomgranat trees; it is good for them to be watered with raine in the latter end of the yeare. And to ſay a truth,
C every kind of tree requireth a ſeverall raine by it ſelfe, in due ſeaſon, for that ſome ripen their fruit at one time, and ſome at another: ſo as a man ſhall ſee ordinarily the ſelfeſame ſhowers, to hurt one ſort, and to helpe another: yea, and that diverſe effect is to be ſeene in trees and fruits of the ſame kind, as for example, in Pyrries: for the late-ward of them call for raine at one time, and the haſtie or forward at another, and yet indifferently all doe require alike the ſeaſonable ſhowers of Winter, as alſo thoſe before budding time. In which regard, the winds Northeaſt are better than the Southerne, and ſuch Winters be moſt kindly. Semblably, by the ſame reaſon the Mediterranean or mid-land parts of any countrey are for this purpoſe preferred before the maritime or ſea-coaſts (as being for the moſt part colder:) the high and hillie regions before the plains and valleies: and laſt of all, the night raines are held to be more profitable than thoſe that fall by day
D time: for lands new ſowne, and any young plants, enjoy more benefite by ſuch ſhowers in the night, for that the Sunne commeth not ſo preſently upon them againe to drie and drinke up all the moiſture.

Hereunto ought to be annexed the conſideration of Vine-yards, Hort-yards, and Groves, as touching their ſituation, and namely, what part of the heaven they ſhould regard. *Virgill* condemned altogether the planting of any trees, reſpective to the Weſt: ſome have choſen that quarter before the Eaſt. And this have I obſerved, that in moſt mens opinion, the South is beſt. But if I ſhould ſpeake what is mine owne conceit indeed, there can no generall and infallible rule be given concerning this point, for to hold alwaies. All our skill and art herein muſt bee directed by the nature of the ſoile, the diſpoſition of the climate and temperature of the aire. In Affricke,
E although it be nothing profitable for Vine-yards to be planted ſo as they looke into the South, yet kind it is and wholeſome for the Vine-planter and husbandman, by reaſon that all Affricke lieth under the Meridionall or South climate. And therefore he that ſhall ſet Vines there, either into the Weſt or North (howſoever *Virgill* alloweth not of the Weſt) ſhall make an excellent medley betweene the temperature of that aire and the nature of ſoile together. As for the North no man ſeemeth to make any doubt or queſtion, but that Vines ſo planted, will proove right well. And verily, there are not found any Vines to proſper, or to beare more fruit in all Italie, than in that tract which lieth on this ſide, and under the Alps: and there for the moſt part the Vineyards are ſo planted.

Moreover, in this caſe the winds would be much conſidered: for in Languedoc or the province
F of Narbone, in Liguria and part of Tuſcane, they are reputed unskilfull husbandmen that plant any Vine-yards directly upon the Northweſt wind: but it is counted contrariwiſe a ſpeciall point of providence and good husbandrie, to caſt it ſo, as the ſaid wind may flanke it on the ſide. For this is the wind, which in thoſe quarters qualifieth and tempereth the exceſſive heat of the Summer: howbeit, many times, ſo violent and bluſterous hee is, that hee beareth downe before him

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the roofe of many a house, and carieth it cleane away. G

Chap. iii.

The societie of the skie and aire with the earth, respective to trees.

SOme men doe force the skie for to be obedient and conformable to the earth: as namely, when planting in drie grounds, they have regard to the East and North: and contrariwise, when in moist places they respect the South. Moreover, it falleth out, that they bee driven otherwhiles to follow the nature of the very Vines, and thereby to bee ruled: whereupon, in cold ground they plant such as be of the hastie kind, and soone ripen their grapes; to the end that they may come to their maturitie and perfection, before cold weather comes. As for such Vines and H trees bearing fruit, as cannot abide dewes, those they set into the East, that the Sunne may soone dispatch and consume the said dew: but looke what trees doe love dewes, and like well therewith, those they will bee sure to plant against the West, or at leastwise toward the North, to the end they may enjoy the full benefite thereof. All others againe (grounding in manner upon naturall reason onely) have given counsell to set as well Vines as Trees, into the Northeast. And *Democritus* verily is of this mind, that such fruits will be more pleasant and odoriferous.

Chap. iiii.

The qualitie of sundrie regions.

AS touching the proper seat of the Northeast wind, and of all other winds, wee have spoken I alreadie in the second booke: and our purpose is in the next following, to treat of the rising and falling of signs and notable starres, of other Astronomicall points also concerning heaven. Now in the mean time for this present, it is sufficient, that in the former rule of the North wind, wee seeme to rest and resolve upon the apparent and evident argument of the wholesome and healthfull climate of the heaven: for as much as we see, that evermore all such trees as stand into the South, soonest shed their leaves. The same reason also is to bee given of those that grow upon the sea-coasts: and albeit in some places the winds blowing from thence, and the very aire of the sea be hurtfull, yet in most parts the same are good and profitable. Certaine plants and trees there are, which take pleasure to be remote from the sea, and joy to have the sight of it only a farre off: set them neerer to the vapours and exhalations ascending from thence, they will take K harme and mislike therewith. The like is to be said of great rivers, lakes, and standing pooles. As for those which we have spoken of, they either burn their fruit with such mists, or refresh & coole such as be hote with their shade, yea, and take joy and prosper in the frost and cold. And therfore to conclude this point, the surest way is, to beleeve and trust upon experience. Thus much for this present, concerning the Heaven: our next discourse shall be of the Earth and Soile, the consideration whereof is no lesse difficult to be handled than the other.

First and formost, all grounds are not alike good for trees and most kinds of corne. For neither the blacke mould (such as Campaine standeth much upon) is in all places best for Vines; or that which fumeth and sendeth up small and thin mists: neither is the red veine of earth any better, howsoever there bee many that commend it. The white earth or chalkie marle, the clay also L within the territorie of Alba and Pompeij, for a vineyard, are generally preferred before all other countries (although they bee exceeding fat, which in that case is otherwise usually rejected.) On the other side, the white sand about *Ticinum: likewise, the black mould or grit, in many places, as also the red sandie ground, although it be well mingled and tempered with fat earth, are all of them nothing to the purpose for encrease and fruitfulnesse. And herein must men take heed, because oftentimes their judgement may faile when it goeth but by the eie: for we must not streight waies conclude, that the ground is rich and battle, whereon we see goodly faire and tall trees to grow, unlesse it be for those trees onely: for where shall we meet with any, higher than the Firre? and is there a tree againe that possibly can live where it doth? No more is ranke grasse & plen- M tifull forrage a true token alwaies of a good ground: for there is no better pasture nor grasing to be found than in Almaine; and yet dig but up the greene sourd and the thinnest coat of turfe that may be, ye shall presently come to barren sand under it. Ne yet is it by & by a moist ground, that hath upon it deepe grasse and hearbes shooting up in height: no more verily, than a fat

*i. Pavie.

and

A and rich ſoile is knowne by ſticking to ones fingers; as appeareth plainely in all ſorts of clay. And verily, no earth doth fill up the trenches even againe, out of which it was caſt, that therby a man might find out whether the ground bee ſad, or hollow: and generally all ſorts thereof will cauſe yron to ruſt that ſhall be put into it. Moreover, there is no weighing of earth in ballance, to know by that meanes which is lighter or heavier: for who could poſſibly ever ſet downe the juſt weight that earth ſhould have? Againe, the ground that is caſt up into bankes by the overflow of great rivers, is not alwaies commendable: ſeeing that ſome plants there be that decay, if they be ſet in water. And ſay that ſome ſuch banke were ground good ynough, yet it continueth not ſo, long, unleſſe it be for Willowes and Oiſiers onely. But if you would know a rich ground indeed, one of the beſt arguments and ſignes thereof is this, when you ſee it to bring forth a thick and ſtrong
B haulme or ſtraw, ſuch as uſually groweth in that noble territorie Laborine within Campaine; which is of that bigneſſe, that the people of the countrey uſe it for fewell in ſteed of wood. Now, this ground, ſo good as it is, where and whenſoever we have found it, is hard ynough to be tilled, and requireth great labour and husbandrie, putting the poore husbandman to more paines in manner with that goodneſſe of it, than poſſibly hee could have with any defects and imperfections thereof. For even the hote earth, called by the name of Carbunculus, which uſeth to burne the corne ſowne thereupon, may be helped & remedied (as it is thought) by ſetting it with plants of poore and hungrie Vines. The rough gravell ſtone which naturally will crumble as grit, many writers there be that allow and commend, for Vines. As for *Virgil*, he findeth no fault with the ground that beareth ferne and brake, for a Vineyard. The earth that is brackiſh, and ſtandeth
C much upon ſaltpetre, is thought to be more ſound for many plants than others; and in regard of vermine that uſe to breed therein, much ſafer alſo. Neither do high bankes and hils remaine untilled and naked for want of good husbandrie, if ſo be a man have the caſt of it, to eare and break them up skilfully. As for the plaines, they are not all of them expoſed to the Sunne or ſubject to the wind more than need requireth. And to ſpeake of froſts, miſts and fogs, there be Vines (as we have ſaid alreadie) which are nouriſhed and fed with them. And to conclude, hereby wee may ſee, that in every thing there is ſome one deepe ſecret or other, wherein it behoveth each man to employ his ſpirit and ſet his mind for to ſearch them throughly and find them out. What ſhall wee ſay then to this, That oftentimes thoſe things which have been approoved by long experience and many obſervations, become otherwiſe, and chaunge their uſuall manner? In Theſſalie
D about Lariſſa, the whole region, by reaſon of a lake that was let out and drained drie, prooved much colder: and the Olives which there grew before, left bearing and died all, upon it. In like ſort, neare unto Ænos, the Vines were all ſcorched and burnt, by occaſion, that the courſe of the river Ebrus was brought neare unto them, an accident that beforetime never befell unto them. Semblably, about the citie Philippi, the whole countrey being made drie by ſluces and trenches artificiall; altered withall the whole diſpoſition of the aire and weather, and chaunged the verie habite of the heaven above their heads. But in the territorie of Syracuſa, the forraine Coloners that thither came to inhabite and practiſe husbandrie, by ridding the ground from all the ſtones, marred all the corne in the countrey; ſo mirie and durtie it was by that meanes, untill ſuch time as they were driven to lay the ſtones againe where they had them. In Syria, the husbandmen goe
E lightly over with their plough, and take no deepe ſtitch in making their furrowes, for feare of the ſtonie rocke lying ebbe under the good ground, which in Summer ſeaſon would burne all their graine and ſeed ſowne there. Now, there be certaine parts of the world, where a man ſhall ſee one and the ſame effect to proceed both of extreame heat, and alſo of exceſſive cold. Thracia is exceeding cold, and thereby plentifull in corne. Affricke and Ægypt be as hote, and yet come not after it for fertilitie in that kind. In Chalcia, an Iſland belonging to the Rhodians, there is one place above the reſt ſo fruitfull, that the Barley which was ſowed in the due time and ſeaſon of the yeare, they mow once, and preſently put it into the ground againe; which will be readie to be cut downe the ſecond time, with other corne in harveſt. In the Venafrane tract within the realme of Naples, the gravellie ground is thought meeteſt for Olive trees, and therin they bear moſt plen-
F tifully: contrariwiſe, about Bœtica in Spaine, the fatteſt ſoile is beſt for that purpoſe. The excellent grape that maketh the good Punicke wine, ripeneth ſoone upon the very rockes: but the Cæcube Vines ſtand ſoaked and drenched (as it were) in the mariſh low grounds of Pomptinum. See what a difference and diverſitie there is in cauſes, to make this varietie in ſundrie plots of ground! *Cæſar Vopiſcus* being convented before the Cenſors, and there pleading his cauſe, affirmed

med openly, that the plaines of Rosea were the very fat of Italie, and resembled the kell or leafe of a fed and franked swine: wherein (quoth hee) if a man left forkes or props to day, they will bee overgrowne and covered with grasse by to morrow. But surely, this ground is good for nothing but pasture. Yet notwithstanding, Nature would have us still to learne and grow skilfull every day more than other: and for that intent shee hath laid open the defects and imperfections of the ground, even there, whereas the commodities therof be neither so certain, nor so well known. And therefore let us in the first place speake of those faults for which the earth is blamed.

Chap. V.

Sundrie sorts of earth.

IF a man would know which is a leane, hungrie, bitter ground, there is no better experiment and proofe thereof, than by the blackish, misliking, and unkind hearbes growing thereupon: like as, when they come up scorched and burnt, they shew a cold soile: also, when they seeme illfavoured and unpleasant to the eie, the earth no doubt is soaked and drowned in wet. As for red sandie ground and cley, you need goe no farther than to your owne eiesight. And such soiles as these be, is of all other, hardest to bee wrought and tilled; they so clog and load both the harrow teeth and the plow-shares, with huge & heavie clods. Howbeit, the ground that is thus churlish to be eared and husbanded, is not alwaies bad and naught for encrease. But it fareth cleane contrarie with the pale and wan ashie earth, as also with the white sandie soile: for the barraine ground is soone found by a thicke and callous crust that it hath, even at the first dent of culter, or stroke of mattocke.

Cato setteth downe breefely, as his manner is, all the defects & faults of ground in these words: *Take heed* (quoth he) *of a rotten ground, and see that you stirre it neither with cart, nor touch it with beast.* What should wee thinke was his meaning by this tearme of his, that he should feare rotten ground so much, as to forbid in a manner to tread and goe thereupon? Let us call to mind the rottennesse that is in wood: and thereby shall we find those faults that he abhorreth and detesteth so much in earth. In good faith, by rotten earth hee understandeth drie, spungeous, and full of holes, rugged, hoarie, eaten, old, and hollow. So as in that one significant word (*Cariosa*) he said more than could be expressed possibly by any multiplicitie of language whatsoever. For if a man would rip up to the quicke the imperfections that are in grounds, he should find, that some peeces there be of it that may be tearmed truly old and overworne, not for any age (for who can say properly, that earth is subject to old age) but by reason of their naturall defects: in regard whereof, a ground may be weake, feeble, barren, and no longer good for to bring forth any thing. The same *Cato* judgeth, That ground to be principall which lieth at the foot of an hill, and runneth forth in manner of a plaine, into the South, which is the very situation of all Italie: and by a blackish and swart earth, which he calleth [*Pulla*] he meaneth a gentle, tender, & mellow soile. And this we will determine to be the best simply both for worke or tillage, and also for gaine and encrease. Now let us (if yee please) stand a little upon this word *Tenara*, [*i.* Tender] which he useth in this sence: you shall find a marvellous signification thereof: and that hee implieth thereby, as much as your heart can wish to be in a ground. That is it, which is so temperate in fertilitie, that is it which to bee wrought is so gentle, soft, pliable, and mellow; neither wet, nor yet drie and thirstie. Now doth this ground shine againe after the plough-share, resembling that veine of earth, which *Homer*, the very fountaine and spring of all good wits, reported to have beene engraven by a * god, in the armour [of *Achilles*:] adding moreover, that the said earth looked blacke withall: wherein he observed a wonderfull peece of workmanship, notwithstanding it was wrought in gold. This is that ground, I say, which being new broken and turned up with the plough, the shrewd and busie birds seeke after, and goe under the plough-share for it: this is it, that the verie Ravens follow the ploughman hard at heeles for, yea, and are readie for greedinesse to pecke and job under his verie feet. And here, in this place I cannot chuse but relate the opinion that is currant among our roiotous and delicate gallants: with some other thing also making for our purpose, in the discourse of this argument which wee have in hand. Certes *Cicero*, a man reputed (as hee was no lesse indeed) for a second light of all good learning and literature, Better are esteemed (quoth hee) the sweet compositions and ointments which ast of earth, than of saffron: where note by the way, that this great clerke chose to use the word

* *Vulcane.*

of

of taſt rather than of ſmell, in ſuch odoriferous perfumes and mixtures. Well, to ſpeake at a word, ſurely that ground is beſt of all other, which hath an aromaticall ſmell and taſt with it. Now if we liſt moreover to be better inſtructed, what kind of ſavour and odour that ſhould be, which we would ſo gladly find in the earth; we may oftentimes meet with that ſent, even when ſhe is not ſtirred with the plough, but lieth ſtill and quiet, namely, a little before the ſun-ſetting, eſpecially where a rainbow ſeemeth to ſettle & pitch her tips in the Horizon: alſo, when after ſome long and continuall drought, it beginneth to raine; for then being wet and drenched therewith, the earth will ſend up a vapour and exhalation (conceived from the ſunne) ſo heavenly and divine, as no perfume (how pleaſant ſoever it be) is comparable unto it. This ſmell there muſt be in it when you ere it up with the plough: which if a man find once, he may be aſſured it is a right good ground; for this rule never faileth: ſo as (to ſay a truth) it is the very ſmell and nothing els, that will judge beſt of the earth: and ſuch commonly are new broken grounds, where old woods were lately ſtocked up: for all men by a generall conſent, doe commend ſuch for excellent. Moreover, the ſame ground for bearing is held to be farre better, whenſoever it hath reſted between, and either lien ley or fallow; whereas for vineyards it is cleane contrarie: and therefore the more care and diligence is to be emploied in chuſing ſuch ground, leaſt wee approove and verifie their opinion, who ſay, That the ſoile of all Italie is alreadie out of heart and wearie with bearing fruit. This is certaine, that both there and elſewhere, the conſtitution of the aire and weather, both giveth and taketh away the opportunitie of good husbandrie, that a man cannot otherwhiles doe what he would: for ſome kind of grounds there is ſo fat and readie to reſolve into mire and dirt, that it is impoſſible to plough them and make good worke, after a ſhowre of raine. Contrariwiſe, in Byzacium a territorie of Affricke, it is farre otherwiſe: for there is not a better and more fruitfull peece of ground lieth without dore than it is, yeelding ordinarily 150 fold; let the ſeaſon be dry, the ſtrongeſt teeme of oxen that is, cannot plough it: fall there once a good ground ſhowre, one poore aſſe, with the helpe of a ſillie old woman drawing the ploughſhare at another ſide, will be able to goe round away with it, as I my ſelfe have ſeene many a time and often. And whereas ſome great husbands there be, that teach us to enrich and mend one ground with another, to wit, by ſpreading fat earth upon a leane and hungrie ſoile; and likewiſe by caſting drie, light, and thirſtie mould, upon that which is moiſt and over-fat; it is a meere follie and waſtfull expence both of time and travaile: for what fruit can he ever looke to reape from ſuch a mingle mangle of ground?

Chap. vi.

Of the earth which Britaine and Fraunce love ſo well.

The Britaines and Frenchmen have deviſed another meanes to manure their ground, by a kind of lime-ſtone or clay, which they call Marga, [i. Marle.] And verily they have a great opinion of the ſame, that it mightily enricheth it & maketh it more plentifull. This marle is a certaine fat of the ground, much like unto the glandulous kernels growing in the bodies of beaſts, and it is thickned in manner of marow or the kernell of fat about it.

Chap. vii.

The diſcourſe of theſe matters continued according to the Greekes.

The Greekes alſo have not overpaſſed this in ſilence: for what is it that they have not medled withall? The white clay or earth wherewith they uſe to marle their grounds in the territorie of Megara, thoſe onely I meane which are moiſt and cold, they call Leucargillæ. Theſe marles (all the kind of them) do greatly enrich Fraunce and Britaine both, and therefore it would not be amiſſe to ſpeake of them more exactly. In old time there were two ſorts thereof, and no more: but of late daies (as mens wits are inventive every day of one thing or other) they have begun to find out more kinds, and to uſe the ſame: for there are now divers marles, the white, the red, the columbine, the clay ſoile, the ſtonie, and the ſandie: and all theſe are but two in nature, to wit, either hard and churliſh, or elſe gentle and fat. The triall of both, is knowne by the handling, and a twofold uſe they yeeld; either to beare corne onely, or elſe for graſſe and paſture alſo. The ſtonie or gravelly ſoile is good onely for to nouriſh corne; which if it be white withall,

withall, and the pit thereof found among springs or fountaines, it will cause the ground to be infinite fruitfull; but it is rough in handling, and if it be laid too thicke upon the lands or leyes, it will burne the verie ground. The next to it is the red marle, called also Capnumargos, which hath intermingled in it a certaine small stonie grit full of sand: This stonie marle the manner is to breake and bruise upon the very lands; and for the first yeares, hardly can the straw be mowne or cut downe for the said stones. Lighter is this marle than the rest by the one halfe, and therefore the cariage thereof into the field is least chargeable. It ought to be spred and laid thin, and some thinke that it standeth somewhat upon salt. But both the one and the other will serve well for fiftie yeares, and the ground enriched thereby, will (during that time) yeeld plentie as well of corne as grasse.

Chap. VIII.

Sundrie sorts of Earth and Marle.

Of those marles which are found to be fat, the white is chiefe; and thereof be many sorts. The most mordant and sharpest of them all, is that whereof we spake before. A second kind there is of chalkish clay, which our goldsmiths use [called Tripela:] this lieth a great depth within the earth, insomuch as many times men are driven to sinke pits an hundred foot deepe, for it; and those have a small and narrow mouth above, but within-forth and under the ground, they be digged wider, by reason that the vaine thereof runneth many waies, in manner of other mettall mines. This is the marle so much used in Britaine: the strength thereof beeing cast upon a land, will last fourscore yeeres; and never yet was the man known that herewith marled the same ground twice in all his life time. The third kind of white marle, is that which the Greekes call Glischromargon: it is no other than the Fullers chalkie clay mixed with a viscous and fattie earth. The nature of it, is to breed grasse better than to beare corne: for after one crop of corne is taken off the ground in harvest, before seed time is come for winter grain, the grasse will be so high growne, that a man may cut it down and have a plentifull after-math for hay: and yet all the while that it hath corne upon it, you shall not see it to beare any grasse besides. This marle continueth good thirtie years: if it be laid over-thicke upon a land, it choketh the ground in manner of * Cumine. The Columbine marle, the Gaules call in their language, by a name borrowed of the Greekes, Pelias, [*i.* Dove or Pigeon marle:] it is fetched out of the ground in clots and lumps, like as stones bee hewed out of quarries: with sunne and the frost togither, it will resolve and cleave into most thin slates or flakes. This marle is as good for corne as for herbage. As for sandie marle, it will serve the turne for want of other: yea & if the ground be cold, moist, and weely, the husbandman will make choise thereof before other.

* *Cymini.* *Turneb.* readeth *Signini*, & meaneth thereby shards of potters work and such like rubbish.

The Vbians, upon my knowledge, use to enrich their ground and make it more battle (though their territorie otherwise be most fertile) with any earth whatsoever; provided alwaies that it be digged up three foot deepe at least, and laid a foot thicke; a devise that no other countrey doth practise: howbeit this soile and manner of manuring, continueth good not above ten yeares. The Heduans and Pictones, have forced their grounds and made them most plentifull, with limestone: which is found also by experience to be passing profitable for vines and Olives.

To come now to the ordering of this peece of husbandry. The ground ought to be ploughed first, before marle of any sort bee cast upon it; to the end that the medicinable vertue and substance thereof, might the sooner and more greedily be received into it. Now forasmuch as marle is at the first over-rough and hard, not so free in the beginning as to resolve and turne into blade or grasse, it had need of some compost or dung to be mingled with it: for otherwise, be it never so rich, it will rather doe harme than good to the ground, by reason that it is yet straunge and not acquainted therewith: and yet helpe it this way as well as you can, it will not bring foorth any plentie the first yeare after it is laid on. Last of all, it skilleth much to consider the nature of the ground, which you meane to marle: for the drie marle, sorteth well with a moist soile; and the fattie, hitteth that which is drie and leane. But when the ground is of a middle temperature between both, it mattereth not whether you use the white goldsmiths chalke, or the Columbine marle, for either of them will serve well enough.

A

Chap. ix.

The uſe of aſhes upon lands: of Dung: what graine or pulſe ſowne, doth make the ground more plentifull, and what burneth it.

THe people dwelling beyond the Po, make ſuch account of aſhes for to enrich their grounds withall, that they prefer it before horſe-muck, and ſuch like: which dung (becauſe they take it to be verie light) they burne alſo into aſhes for that purpoſe. Howbeit (as we have ſaid before) in one and the ſame corne-land, they uſe not aſhes and mucke both at once: no more doe they caſt aſhes in hortyards for to nouriſh young trees; nor in fields, for ſome kind of corne.
B Some are of judgement, that grapes are fed with duſt: who alſo doe caſt duſt upon them when they begin to bloome, yea and beſtrew duſt upon the roots as well of vines as other trees. Certaine it is, that in the province of Narbon they uſe ſo to doe; and they are aſſuredly perſuaded, that grapes ripen better and the vintage commeth the ſooner thereby: becauſe in thoſe parts duſt doth more good than the Sunne.

As for mucke, there be divers ſorts thereof, and in old time much uſe there was of it: for in *Homer* we read, that long ago the good old king [*Laertes*] was found laying ſoile and dung upon his land with his owne hands. The firſt that deviſed mucking of grounds, was (by report) *Augeas*, a king in Greece: but *Hercules* divulged the practiſe thereof among the Italians, who in regard of that invention immortalized their king *Stercutius* the ſonne of *Faunus*. *M. Varro* eſteemeth
C the dung of Blackbirds (gathered out of their bartons where they bee kept in mew) above all others. He highly magnifieth and extolleth it alſo, for that it bringeth forth ſo good forage to feed kine, oxen, and ſwine withall: avouching for certaine, that they will become fat beeſe and porke with no meat ſooner. Wee muſt thinke well therefore and hope the beſt of the world now adaies, ſince that our auncestors and forefathers ſo long ago had ſo great bartons and pens, that the dung of foules there kept, was ſufficient to helpe their hard and hungrie grounds. In the ſecond degree of goodneſſe, *Columella* raungeth Pigeons dung gathered out of dovecotes: the third place hee giveth to that of Hens, and other land pullen, rejecting altogither the dung of water-foule. Howbeit all other authours (ſetting theſe two aſide) attribute with one voice and conſent unto the excrements of mans bodie, the greateſt praiſe for this purpoſe. Some of them
D prefer mans urine, and namely when the haires of beaſt-hides have been ſoked therewith and quicke-lime togither in the Tanners pits. Others uſe urine alone by it ſelfe, only they mingle water with it againe, but in greater quantitie a good deale, than they (whoſe urine it was) did put to the wine when they dranke it: and good reaſon too; for more need there is now to correct and repreſſe the malice thereof, conſidering that beſides the native malignitie of the wine it ſelfe, mans bodie hath given and imprinted into it, a ſtrong and unſavorie qualitie. Thus you may ſee how men labour, ſtrive, and trie concluſions, to feed and enrich the very ground, the beſt way they can deviſe. Next unto the ordure and urine of mans bodie, the filthie dung of ſwine is moſt commended: only *Columella* condemneth it. Some praiſe the mucke of any four-footed beaſts whatſoever, ſo they were fed with Tree-trifolie, called Cytiſus. Others preferre the dung of Pi-
E geons before any other; in the ſecond place that of Goats; thirdly of ſheepe; then of kine and oxen; and laſtly of cart-jades, mules, aſſes, and ſuch like. Thus you ſee as well what difference there was in times paſt, betweene this dung and that; as alſo what were the rules (ſo farre as I can gueſſe and learne) whereby they went, in the uſe and ordering thereof: for, to ſay a truth, the old way is beſt, even herein as well as in other matters. Over and beſides, the practiſe hath been alreadie ſeene in ſome of our provinces (where there is ſo great ſtore of cattaile bred) to riddle and ſift their dung over their ground through ſieves, in manner of meale; and ſo in proceſſe of time it looſeth not only the ſtinking ſent and ill-favoured ſight that it had, but alſo turneth into a pleaſant ſmell, and looketh lovely withall. Of late, found it hath been by experience, that Olive trees doe like and proſper very well, if the aſhes of lime-kills eſpecially bee laid to their roots.
F *Varro*, among many other precepts, addeth and ſaith, That corne grounds would bee manured with horſe dung, becauſe it is the lighteſt; but medowes require compoſt that is heavier, and namely, made by beaſts that have barley for their provender; for that ſuch ſoile bringeth plentie of graſſe. Some there be alſo, that prefer the dung made by horſes, before the mucke of kine and oxen; likewiſe ſheeps treddles, before goats dung; but aſſes mucke before all other, becauſe

they eat and chew their meat most leisurely. But daily experience teacheth the contrarie, and testifieth against the one and the other. And thus much as touching compost of mucke. G

Furthermore, all men are of opinion, that nothing is better for the ground, than to sow Lupines therupon; provided alwaies, that before it cod, it be turned into the ground by the plough, spade, or two-piked yron forke: also when it is cut downe, to make it into wads or bottles, and so to burie them at the roots of trees, and vines especially. In countries where there are no cattell to better the lands, it is thought good to manure the same in stead of beasts dung, with verie hawme, straw, and ferne. *Cato* hath a devise to make an artificiall mucke or compost of litter, lupine straw, chaffe, beane stalkes, leaves and braunches both of mast-Holme and Oke. Hee saith moreover to the same purpose: Weed out of the standing corne, * Walwort [otherwise called Danewort] and Hemlocke; also from about osier-plots, plucke up rancke weeds, or ground-Elder; also Reeke or Sea-grasse, and dead leaves or braunches lying rotten under trees: when thou hast so done, strew and lay a course of them under sheepe where they be folded. *Item*, If thy vine begine to decay and wax leane, burne the shreads and cuttings of the owne, and turn the ashes under ground hard to the roots thereof. *Item*, Where thou meanest to sow any wheat or such like bread-corne, draw thy sheepe thither, and there fold them. He saith moreover, that the sowing of some graine is as good as a dunging to the ground: for these be his very words, The fruit it selfe of the earth is a batling to the earth, and namely, Lupines, Beanes, and Vetches, for they mucke the lands: like as on the contrarie side, Chiches doe burn the ground, both because they are plucked, and also for that they stand upon salt. Semblably doth Barley, Fœnigreeke, Ervile, and generally all kind of pulse which are pulled and not mowen down. *Item*, Take heed (quoth *Cato*) that you set no pepins or kernels, where you meane to sow corne. As for *Virgil*, he is of opinion, that the sowing of Line-seed for flax, likewise of Otes and Poppies, do burn corne-ground and pill it out of heart. He also giveth rules as touching mucke-hills, That they should be made in the open aire, within some hollow place where it may gather water; that they bee covered over with straw and litter, for feare they should drie in the sunne; and last of all, that they have a good strong stake of Oke pitched and driven in about the mids thereof, for so there will no snakes nor such like serpents breed and engender therein. Moreover, as touching the spreading of mucke, and mingling it with the mould of a land, it is exceeding good to do it when the wind setteth full West, so that the Moone then be past the full and in the waine. But this rule many have mistaken and not construed aright, supposing that they should so doe when the Westerne wind Favonius beginneth to rise, and namely in the moneth of Februarie only: whereas indeed most corne lands require this point of husbandrie in other moneths as well. But looke what time soever you list to doe it, be sure in any hand that the wind doe then blow from the Æquinoctiall point of the West, and that the moone then be in the waine, and drie withall. Have regard to these rules and observations, you will wonder to see the effects thereof, and what encrease the earth thereby will yeeld.

Herba Ætlen. H I K

Chap. x.

The planting and setting of trees: the manner how trees doe grow, by a Sion slived and plucked from the root. L

NOw that we have alreadie sufficiently treated of the considerations as well of the aire and skie, as of the earth, belonging unto plants and trees; me thinkes it were to good purpose to discourse of the industrie and artificiall means that men have used to make trees grow: and verily we shall find no fewer kinds of them that come by mans hand, than of such as Nature it selfe hath brought forth; so kind and thankfull have we been to her, as to make recompence in this behalfe. First and foremost therefore this is to be noted, That all trees doe grow either of seed sowen, or of braunches growing to the tree and couched in the ground, or of an old stocke from whence new imps may sprout: also, either of a slip or sprig plucked from another tree, and so laid in the ground; or of a young shoot, twig, impe, or Sion, engraffed in the very trunke of a tree, slit and cloven for that purpose. For I cannot chuse but marveile much at *Trogus*, who was verily perswaded, That about Babylon the leaves onely of Date trees being set or sowen, would proove trees. Now whereas there bee so many devises aboveside for to nourish trees, this you must understand, that some trees there be which will grow by many of these waies before specified, M

A fied, and others by them all. And verily the moſt part of this knowledge hath been taught by Nature her ſelfe: for firſt of all, we have learned by her for to ſow ſeed, by occaſion that we have ſeen ſome to fall from trees, which being received by the ground, have chitted, taken root, and lived. And in very truth, ſome trees there be that grow no otherwiſe, as Cheſtnut, and Walnut-trees, excepting only thoſe that being cut downe, doe ſpring new againe from the root. Of ſeed alſo (although the ſame be farre unlike to others) thoſe alſo will grow; which are uſually planted otherwiſe, as for example, Vines, Apple trees, and Pyrries: for in theſe the ſtone and pepin within, ſerveth in ſtead of the ſeed; and not the fruit it ſelfe, as in thoſe before rehearſed, the kernels whereof [*i.* the fruit] are ſowne. Medlars likewiſe may come up of ſeed. But all the ſort of theſe that ſpring after this manner, be late ere they come forward, and ſlow in growth: they turne alſo
B to a degenerate and baſtard nature, & had need to be graffed anew ere they be reſtored to their owne kind: which is the caſe of Cheſtnuts alſo otherwhiles. Howbeit there be others for them againe, which (ſow or ſet them what way you will) never grow out of their owne kind, and ſuch be Cypreſſes, Date trees, and Lawrels: for the Lawrell commeth up by ſowing, by ſetting, and planting, after ſundrie ſorts. The divers kinds whereof, we have deſcribed alreadie. Of all which, the Lawrell Auguſta with the broad leaves, the common Bay tree alſo that beareth berries, as alſo the wild kind named Tinus, bee ordered all three after one and the ſame ſort. The manner whereof is this: The bayes or beries thereof, bee gathered drie in the moneth of Ianuarie when the Northeaſt wind bloweth: they are laid abroad thin to wither, one apart from another, & not in heaps, for feare they ſhould catch a heat. This done, ſome put them afterwards in dung; and
C being thus prepared and readie for to bee ſowne, they ſteepe them in wine. Others take and lay them within a large basket or twiggen panier, trample them under their feet in a brooke of running water, untill they be pilled and rid of their outward skins: for otherwiſe their skinne is of ſo tough and moiſt a ſubſtance, that it would hardly or not at all ſuffer them to come up and grow. After all this, in a plot of ground well and throughly digged once or twice over, a trench or furrow muſt be made a handfull deepe, and therein the berries ought to be buried by heaps, to wit, twentie or thereabout togither in one place: and all this would be done in the month of March. Lawrels alſo will grow, if their braunches or boughs be bended from the ſtocke and laid within the ground: but the Triumphall Lawrell will come up no other way but by ſetting a graffe or impe cut from it. As for the Myrtle, all the ſorts therof within Campaine, come of beries ſowne:
D but wee at Rome uſe to interre onely the boughs of the Tarentine Myrtle, growing ſtill to the bodie, and by that meanes come to have Myrtle trees. *Democritus* ſheweth another deviſe alſo to encreaſe Myrtles, namely, to take the faireſt and biggeſt beries thereof, and lightly to bruiſe or bray them in a mortar, ſo that the graines or kernels within be not broken; and then to beſmere with the batter or ſtamped ſubſtance thereof, a courſe cord made of Spart or Spaniſh broome, or els hempen hurds, and ſo lay it along within the ground. Thus there will ſpring therof, a marveilous thick hay or wall (as it were) of yong Myrtles: out of which, the ſmall twigs you may draw which way you will, yea and plant them elſewhere. After the like manner, folke uſe to ſow thorns or brambles for to make hedges and mounds, namely, by anointing ſuch another hempen rope with bramble blacke-berries, and interring the ſame. As for Bayes thus ſowen, when they come
E once to beare a darke and blackiſh leafe: Myrtles alſo, when their leaves bee of a wine colour, to wit, of a deepe red (which commonly happeneth when they be three yeers old) it will be time to remoove and tranſplant.

Among thoſe plants and trees that are ſowen of ſeeds, *Mago* maketh much ado, and is foully troubled about thoſe trees that beare nuts, & ſuch like fruit in ſhels: For to begin with Almonds firſt, he would have them to be ſet in a ſoft clay ground that lieth into the South: and yet he ſaith againe, that Almond trees love a hot and hard ſoile; for in a fat or moiſt ground, they will either die or els wax unfruitfull. But above all, he giveth a rule to chuſe Almonds for to ſet or ſow, that be moſt hooked, and eſpecially ſuch as were gathered from a young tree: alſo he ordaineth, that they ſhould be well ſoked or infuſed in ſoft beaſt ſhearne or thin dung, for three daies togither: or
F at leaſtwiſe in honyed water, a day before they be put into the ground. *Item*, They ought (by his ſaying) to be ſet charily with the ſharpe and pointed end pitched downward, and the edge of the one ſide to turne into the Northeaſt. Alſo that they muſt ſtand three and three togither in a triangle, forſooth, ſo as there be a handbreadth juſt between every one. Moreover, that every tenth day they ought to be watered, untill they bee ſhot up to a good bigneſſe. Now to come unto

Walnuts, they be laid along within the earth, with this regard, that they do lye upon their joints. G
As for Pine-nuts, there would be ſixe or ſeven of their kernels put togither into pots that have holes in them, and ſo buried in the ground: or els they ſhould bee ordered after the manner of the Bay tree, which commeth of berries bruiſed, as hath been ſhewed before.

The Citron tree will grow of ſeed, and may be ſet alſo of ſprigs or twigs drawn to the ground from the tree, and ſo couched. Sorviſe trees come of the graines thereof ſowed of a quicke-ſet plant alſo with the root, or of a ſlip plucked from it. But as the Citron trees live in hot grounds, ſo theſe Sorviſes love cold and moiſt.

As concerning ſeminaries and nource-gardens, Nature hath ſhewed us the reaſon and manner thereof, by certain trees that put forth at the root a thicke ſpring of young ſhoots or ſions; but lightly the mother that beareth theſe imps, killeth them when ſhe hath done, with her ſhade H
and dropping togither. And this is evident to be ſeene in Lawrels, Pomegranate trees, Planes, Cherrie trees, and Plum trees: for ſtanding as theſe impes doe, a number of them without all order under their mother ſtocke, they be over-ſhadowed and kept down ſo, that they miſlike and never come to proofe. Howbeit ſome few there bee of this ſort, that are not ſo unkind to their yong breed, as to kill them with the ſhadow of their boughs; and namely, Elmes and Date trees. This would be obſerved by the way, that no trees have ſuch young imps ſpringing at their feet, but they only, whoſe roots for love of the warme ſunne and moiſt rain, ſpread aloft and lie ebbe within the ground. Moreover, the manner is not to ſet theſe young plants preſently in the place where they muſt remaine and continue for altogither, but firſt they are to be beſtowed in a peece of ground where they may take nouriſhment, to wit, in ſome nource-garden for the nones, un- I
till they be growne to a good ſtature; and then they are to be removed a ſecond time unto their due place. And a woonder it is to ſee, how this tranſplanting doth mitigate even the ſavage nature of the wildeſt trees that are: whether it be that trees as well as men, are deſirous of novelties, and love to bee travailing for chaunge; or that as they goe from a place, they leave behind them their malicious qualitie, and beeing uſed to the hand, become tame and gentle like the wild beaſts; eſpecially when ſuch young plants are plucked and taken up with the quicke root. We have learned of Nature alſo, another kind of planting much like to this: for we ſee that not only water-ſhoots ſpringing out of the root, but other ſprigs ſlipped from the ſtocke, live and doe full well: But in the practiſe of this feat, they ought to be pulled away with a colts-foot of their owne, ſo as they take a quicke parcell alſo of their mothers bodie with them, in manner of K
a fringe or border hanging thereto. After this manner they uſe to ſet Pomegranat, Filberd, Hazell, Apple, and Serviſe trees; Medlars alſo, Aſhes, and Fig trees; but Vines eſpecially: mary a Quince ordered and planted in that ſort, will degenerat and grow to a baſtard kind. From hence came the invention, to ſet into the ground young ſprigs or twigs, cut off from the tree. This was at firſt practiſed with foot-ſets for a prick-hedge, namely, by pitching downe into the earth, Elder, Quince-cuttings, and brambles; but afterwards men began to do the like by thoſe trees that are more ſet by, and nouriſhed for other purpoſes, as namely Poplars, Alders, and the Willow, which of all others may be pricked into the ground with any end of the cutting or ſprig downeward, it makes no matter whether, for the ſmaller end will take as well as the bigger. Now all the ſort of theſe, are beſtowed and ranged in order at the firſt hand, even as a man would have them, L
and where he liſt to ſee them grow, neither need they any remooving or tranſplantation at all. But before we proceed any further, to other ſorts of planting trees, it were good to declare the manner how to order ſeminaries, ſeed-plots, or nource-gardens.

For to make a good pepinnier or nource-garden, there would be choſen a principall & ſpeciall peece of ground: for oftentimes it falleth out, yea and meet it is, that the nource which giveth ſucke ſhould be more tender over the infant, than the owne naturall mother that bare it. In the firſt place therfore, let it be a ſound and drie ground, howbeit furniſhed with a good and ſucculent elementall moiſture, and the ſame broken up and after well digged over & over with mattocke and ſpade, and brought to temper and order, ſo as it be nothing coy but readie to receive all
manner of plants that ſhall come, and to entertaine them as welcome gueſts; and withall, as like M
as may be to that ground unto which they muſt be remooved at laſt. But before all things, this would be looked unto, that it be rid cleane of all ſtones; ſurely fenced alſo and paled about, for to keepe out cocks and hens and all pullen: it muſt not bee full of chinkes and cranies, for feare that the heat of the ſunne enter in and burne up the ſmall filaments or ſtrings and beard of the

new

A new roots: and laſt of all, theſe pepins or kernils, ought to ſtand a foot and a halfe aſunder: for in caſe they meet together and touch one another, beſides other faults & inconveniences, they will be ſubject to wormes: and therefore, I ſay, there would be ſome diſtance betweene, that the ground about them may be often harrowed and raked, to kill the vermine, and the weeds plucked up by the heels that doth breed them. Moreover, it would not be forgotten, to proine theſe yong plants when they are but new come up: to cut away, I ſay, the ſuperfluous ſprigs underneath, and uſe them betimes to the hooke. *Cato* giveth counſell to ſticke forkes about their beds a mans height, and lay hurdles over them, ſo as the Sunne may be let in underneath: and thoſe hurdles to cover and thatch over with ſtraw or haulme, for to keep out the cold in winter. Thus are yong plants of Peare trees and Apple trees nouriſhed: thus Pine nut trees, thus Cypreſſes which like-
B wiſe come up of ſeed, are cheriſhed.

As for the graines or ſeeds of the Cypreſſe tree, they bee exceeding ſmall, and ſo ſmall indeed, that ſome of them can ſcarce bee diſcerned well by the eie: wherein the admirable worke of Nature would bee conſidered, to wit, that of ſo little ſeeds there ſhould grow ſo great and mightie trees, conſidering how far bigger are the cornes of Wheat and Barley (to make no reckoning nor ſpeech of Beanes) in compariſon of them. What ſhould wee ſay to Peare trees and Apple trees? what proportion or likeneſſe is there betweene them, and the prettie little pepins whereof they take their beginning? Marvell we not, that of ſo ſlender and ſmall things at the firſt, they ſhould grow ſo hard, as to checke and turne againe the very edge of axe and hatchet? that frames and ſtockes of preſſes ſhould bee made thereof, ſo tough and ſtrong, as will not ſhrinke
C under the heavieſt poiſe and weights that be? that Maſt-poles comming thereof ſhould beable to beare ſaile in wind and weather? and finally, that they ſhould affourd thoſe huge and mightie rams, and ſuch like engines of batterie, ſufficient to commaund towers and baſtils, yea, and beat downe ſtrong walls of ſtone before them? Loe, what the force of Nature is! ſee how powerfull ſhe is in her workes! But it paſſeth and exceedeth all the reſt, that the very gum and liquour diſtilling out of a tree, ſhould bring forth new plants of the ſame kind: as we will more at large declare in time and place convenient. To returne then againe to the female Cypreſſe (for the male as hath been ſaid alreadie, bringeth forth no fruit) after that the little bals or pils (which bee the fruit thereof) be gathered, they are laid in the Sunne to drie, during thoſe months, which we have before ſhewed: and being thus dried, they will breake and cleave in ſunder. Now, when they are
D thus opened, they yeeld forth a ſeed, which Piſmires are very greedie of. Where another wonder of Nature offereth it ſelfe unto us, That ſo ſmall a creature as it, ſhould eat and conſume the ſeed that giveth life and being to ſo great and tall trees, as the Cypreſſe. Well, when the ſaid ſeed is gotten, and the plot of ground laid even and ſmooth, with cylinders or rollers, it muſt be ſowne of a good thickneſſe in the moneth of Aprill: and freſh mould ſifted and ſtrewed over with riddles, an inch thicke and no more: for if this graine be buried over deepe and ſurcharged, it is not able to breake through againſt the weight of the earth, but in ſteed of riſing up, the new chit turneth and bendeth backward under the ground. And hereupon it is, that folke forbeare either to goe at all upon it, or elſe they tread very lightly. Being thus ſowed, it muſt be gently watered for three daies following, after the Sunnes ſetting, (that the earth may drinke equally in all places)
E untill the ſprouts appeare above ground. Now, after they have had a yeares growth, they be tranſlated, and replanted againe in rewes: for by that time they are come to a ſpan or nine inches in height: but great care muſt bee had, that the time bee temperate, that is to ſay, that the weather be freſh and faire, and without any wind. Certes, a wonderfull thing it is to be ſpoken, That all the daunger or ſecuritie of this tree, ſtandeth upon the choiſe of that onely day, wherein it is replanted: for let there fall never ſo ſmall a raine or deaw, nay, let the wind blow never ſo little, it is a great hazard that it will die. For ever after it is wariſhed and ſafe ynough, howbeit, they cannot abide a glut of raine, at any time following. Moreover, as touching Injubes, they are likewiſe ſet of their graines, in the moneth of Aprill. But that kind of Peaches or Abricots which bee called Tuberes, love better to bee graffed either upon a ſkeg or wild Plum-ſtocke, or Quince, or elſe
F upon the wild Hart-Rhamme, called Calabricum, [or Spina Cervina.] To knit up this diſcourſe, the fruit Sebeſten and the Serviſes may be graffed and planted both upon the ſame kind of ſtocke: and looke what will beare the one, is apt to receive the other.

CHAP.

Chap. xi.

The manner of translating and replanting, out of one seminarie or nource-garden unto another. How Elmes are to be planted. Also, as touching trenches.

SOme would have us to remoove plants out of one seminarie into another, before they bee set indeed where they should be for to continue: which mee thinkes is a matter of more toile and curiositie than necessitie, howsoever they make promise, That by such transplanting, the leaves will prove larger and broader.

*1. The first of March. Now for Elmes, their seed or graine is to be gathered about the *Calends of March, when it beginneth to turne yellow, and before the leaves break forth. After it hath been dried in the shaddow for two daies, it is to bee sowne thicke in a plot of ground well broken up and laid hollow beforehand, and then must there be mould serced over through a fine riddle, to the same thicknesse as we have appointed for the Cypresse. In case no raine doe fall in due time, it ought to be watered by hand. After one yeare, the plants that come hereof, must be taken up out of the trenches and raunges wherein they came up, and translated directly into the Elme plots, where they are to grow; with this care and good regard, that they stand a foot at least everie way distant one from another. As for the male Elmes, unto which Vines are wedded, because they are without seed, it is better they were planted in the Autumne: and for that they want seed, they would bee set of plants. Here with us about Rome side, they use to replant them againe in their grove plots, when they be five yeares old, or, as some would have it, so soone as they bee come to twentie foot in height. The manner whereof is this, in a trench or ditch called *Novenarius, three foot deepe in the ground, and as many broad, or rather more, they are set: which done, for three foot in height every way about the foot of each tree from the ground as it standeth, there must be banks raised of some earth, after the manner of those seats which they call Arulæ in Campanie. As for the spaces between tree and tree, they ought to be set out and disposed according to the nature and situation of the place, and as the ground will give leave. In the champion and plaine countrey, those would bee planted that are of a drier nature, and likewise in a thinner course. As for Ashes and Poplars, because they make hast to spring, leafe, and bud out betimes, it is meet that their plants likewise were set and ranged with the first, that is to say, about the *Ides of Februarie; for they also grow of plants, and may well be replanted.

*Nine foot distant every way from another: for trees were planted ordinarily, with that space betweene: as may appeare in the next chapter.

*2. The 13 day of Februarie.

Now for the order of setting trees either in groves, hortyards, or vineyards, we ought to follow the usuall manner of checquer row, called Quincuntiall, which is not so common, but it is also as necessarie: not onely good to admit all kinds of wind to passe betweene, but also faire and pleasant to the eie, considering, that which way soever a man lookes, there offer to his sight both the allies, and rewes, directly raunged in order.

The Opiets or Wich-hazels are sowne of seed after the same manner as Elmes: in like sort also they to bee remooved and transplanted out of their nource-plots, as if they were wild, drawne from the very forrests.

Moreover, above all things this would be considered, that a tree to be removed, ought to bee translated either into the like ground from whence it came, or else into a better. For we must take heed how we do remove plants out of warme grounds, & where the fruit is earely ripe, into others that be colder or late in ripening. Semblably, out of cold and hard places, they would not bee translated into warme, mellow, and forward. *Item*, If it be possible, let the trenches bee cast and digged so long before, that a good thicke greene sourd be overgrowne against the time that you meane to plant. *Mago* is of opinion, That the said ditches or trenches should stand made a year before at the least, that they might be fully seasoned with the Sunne, and receive all raine, wind, and weather, throughly. But in case it fall out otherwise that the opportunitie therof be overslipt, or our leisure will not serve, he would have fires to be made in the middest of them two moneths before, and in no case any trees to be set but after showers of raine. And if the ground be tough or hard, and standing upon the cley, the ditches ought (according to *Mago*) for to bee three cubites deepe every way: and if they be for to plant Plum-trees, hee would have them bee a handbreadth more or a span in deapth, and digged on every side hollow, and vaulted in manner of a furnace, with a narrower mouth in the top. In a blacke veine of ground, by his direction, it is sufficient that they be two cubites and a handbreadth or span deepe, and made foure square in manner

A ner of a quadrangle. In the meaſure and proportion of theſe ditches, the Greeke writers doe accord in one, ſaying, that they ought not to bee more than two foot and a halfe deepe, nor wider than two foot bare: alſo, that in no place it muſt bee under a foot and a halfe deepe, for that in a moiſt ſoile, we ſhall come ordinarily neare to water about that skantlin, and not before. But *Cato* is of another judgement, If (quoth he) the place be wateriſh, let the trenches be three foot broad in the mouth, but in the bottome not above a foot and a hand-breadth, but ſee they bee foure foot deepe: provided alwaies, that they be* paved beneath with ſtone: and for want thereof, laid with greene willow baſtons, and for default of them, with vine cuttings, or ſuch trouſſe; ſo that they lie halfe a foot thicke. But conſidering the nature of trees whereof we have before written, I thinke it not amiſſe to adde ſomewhat of mine owne, namely, The more ebbe that any roots of
B trees creepe under the ground, the deeper they muſt be ſet into the earth, as for example, the Aſh and the Olive tree: for they and ſuch other like ought to ſtand foure foot deepe. As for all the reſt, it skils not, if they goe no deeper than three foot, for that is thought ſufficient. [Stocke me up this root here (quoth *Papyrius Curſor* a Roman Generall, in a braverie, when he meant to terrifie the Pretor of the Prænestines.) Wherby it is plain, that the more ſecure and ſafe way in his judgement, was rather to cut the ſtocke and maiſter Root indeed, than ſlightly to pare away thoſe bare roots that appeare naked above ground; for that mought be done, and the tree never the worſe for it.] Some there be that would have round pebble ſtones laid in the bottome of ſuch ditches, which might as well containe & keepe water, as let it forth and give iſſue thereto: whereas broad flat ſtones would not ſo doe, but beſides, hinder the root that it ſhould not goe downe
C and take hold of the earth. For to keepe therefore a meane betweene, it were good in mine opinion, to lay gravell under the root.

*It ſeemeth that *Cato* meant of trenches to draine water out of low grounds: and not as *Plinie* miſtaketh.

Moreover, there be diverſe men of this mind, that a tree ſhould not be removed, either under two yeares old, or above three: whereas others make no queſtion to tranſplant them after the firſt yeare, without more adoe. *Cato* alloweth not of tranſlating a tree, unleſſe it bear in thickneſſe more than five fingers. And verily, ſo exactly hath he written hereof, that he would not have forgotten, to marke in the barke of trees the South ſide, before they were taken up, in caſe, hee had thought that it was materiall to the replanting of them, that they ſhould ſtand juſt in the ſame poſition and accuſtomed coaſt of the heaven, as they did before; for feare leaſt that ſide which regarded the North, if now it ſhould bee oppoſed againſt the South, might cleave and riſt with
D the heat of the Sunne, not uſed thereto: and contrariwiſe, the parts which looked Southward, might now by the Northerne winds, be clunged and congealed withall. Now, there bee ſome that affect a cleane contrarie courſe, and namely, in the Fig tree and the Vine; exchaunging the one ſide for the other: being fully perſuaded, that by that meanes they will beare leaves thicker, preſerve and defend their fruit better, and in the end ſhed fewer: more particularly, that the Fig-tree thereby will be the *more eaſie to climbe. Moſt men take great heed of this only, that when they prune trees, and cut off the top ends of boughs, the cut may be toward the South; without any regard or conſideration, that in ſo doing they expoſe the boughs to the daunger of cleaving, by reaſon of the hote Southerne wind, which lieth unceſſantly beating upon them. Yet hold I rather with them, that would have braunches cut Southeaſt or Southweſt, namely, toward the points
E where the Sunne is, at the fift and eight houres of the day. Another ſecret there is beſides, wherof they are as ignorant, howbeit, not to bee neglected, namely, to beware that the roots of ſuch trees as are to bee replanted, ſtay not long above ground, and thereby waxe drie: alſo, that trees be not digged up, either ſtanding into the North, or in any quarter betweene that point and the Southeaſt, where the Sunne riſeth in midwinter, in caſe the wind ſit in thoſe corners: or at leaſtwiſe, that the roots be not expoſed bare againſt any of thoſe winds: for ſurely, many a tree dieth hereby, and husbandmen never know the cauſe thereof. *Cato* utterly condemneth all manner of winds whatſoever, yea, and raine too, all the while that trees bee in remooving. Moreover, in this caſe it is ſingular good, that there hang to the roots of theſe trees when they bee tranſlated, as much of the old earth wherin they lived and grew before, as may be, yea, and (if it were poſſible)
F to bring them away with the turfes whole and entire, lapped faſt about the roots. And therefore *Cato* provided well, that ſuch yong plants ſhould be caried in baskets, earth and all together with the roots. Doubtleſſe, not without very great reaſon there is one Author ſaith, That it is ſufficient that the uppermoſt courſe of the old mould which lay at the foot of the tree, ſhould bee put under the root thereof now when it is replanted. Some write, that if the bottome of the hole or

*Scanſilem, reading it βαθατον, haply: for βαθυτατον, out of *Theophraſtus*, i. more fertile and fruitfull.

grave

grave be paved with ſtone where Pomgranate trees ſhould ſtand, the Apples or fruit that they G
beare, well never burſt nor cleave upon the trees. Alſo, that the roots of trees when they are to be ſet, ſhould be laid bending atone ſide, and not ſtand direct and ſtreight. Moreover, that the tree in any caſe bee ſet juſt in the middeſt of the ditch or hole made for it. It is ſaid moreover, that if a man plant a Fig tree, together with the ſea-onion, Scilla (which is a kind of the Bulbi) it will make haſt to beare Figs, and thoſe will not be ſubject to the worme: and yet other fruits will be worm-eaten nevertheleſſe, ſet them with the ſaid Scilla as well as you can. As for the roots of a tree, who maketh any doubt, that great care ſhould be had in the taking of them up? ſo as they might ſeeme rather drawne forth gently, and not plucked up violently. But my purpoſe is not to dwell in theſe matters, nor to ſtand much upon ſuch points, which have a manifeſt reaſon, and whereof no man is ignorant or doubtfull; to wit, that the earth is to bee well driven and beaten downe H
cloſe with a rammer, that it may lie faſt about the roots, which *Cato* judgeth to bee a principall point for to bee obſerved in this buſineſſe: who alſo giveth a rule, that the place where a tree is cut in the bodie, ſhould be plaiſtered over with dung, covered over alſo, and faſt tied with leaves.

Chap. xii.

Of the ſpaces and diſtances that ought to be betweene trees planted: of their ſhaddowes and droppings: of the place where they ſhould be planted.

IT belongeth to this place properly for to ſpeake of the diſtances betweene tree and tree, in the ſetting. Some writers are of opinion, That Pomgranat trees, Myrtle trees, and Lawrels, ſhould I
be planted thicker than ordinarie, howbeit, with this regard, that they be ſet nine foot aſunder one from another. As for Apple trees, they may ſtand a little more at large, Peare trees ſomewhat wider than they, Almond trees and Fig trees yet a little more than all the reſt. But herein muſt we be ruled and directed by the boughs ſpreading more or leſſe, by the rowme of the place it ſelfe, and according to the ſhaddow that each tree caſteth. There is not (I ſay) any one of theſe conſiderations to bee neglected, and the ſhade eſpecially of all others would bee obſerved. For ſuch trees as doe braunch round as it were in compaſſe, although they bee otherwiſe great, as namely, Apple trees & Pyrries, yet they yeeld no great ſhaddow: whereas a man ſhall ſee Cherrie trees and Lawrels take up an exceeding deale of ground with their ſhade. Now theſe ſhaddowes of trees have their properties by themſelves, for that of the Walnut tree is noiſome and K
hurtfull even to man, breeding heavineſſe in the head: and an ill neighbour it is beſides to all plants either under or neare unto it. The Pine tree alſo with her ſhaddow nippeth and killeth the young ſpring of all plants within the reach thereof. Howbeit, both it and alſo the Walnut tree reſiſt the force of winds notably, and therfore they ſerve in good ſteed to protect vineyards, and are projected againſt the winds to breake their violence. The dropping of the Pine, Oke, and Maſt-holme, by reaſon of the raine water wherewith they are much charged, is very heavie and ponderous, and therefore hurtfull. As for the Cypreſſe tree, it droppeth little or nothing, by reaſon that it receiveth ſo ſmall a deale of raine: & in truth of all others the ſhade is leaſt, the boughs are knit and truſt ſo round, and run up ſharpe pointed in the top. The Fig tree giveth no thicke ſhaddow, however the boughs ſpread large ynough; which is the cauſe, that no man forbiddeth L
the planting of them in Vineyards among Vines. And as for Elmes, their ſhade is ſo mild and thin, that it nouriſheth whatſoever it overſpreadeth under it. Howbeit, *Atticus* is of opinion, That the ſhaddow of Elmes is one of the thickeſt and moſt hurtfull: neither doe I make any doubt thereof, if they be let to ſpread into great armes and boughs at libertie: marie, if the braunches thereof, or of any tree within-forth be ſhrigged, I thinke that the ſhade will doe no harme at all. The Plane tree carieth a heavie head, and therefore caſteth a thicke ſhade, howbeit, pleaſant it is, and refreſheth thoſe that ſit under it: ſafe reſting there is upon the graſſe, rather than the bare ground: and there is not a tree againe where graſſe groweth thicker and longer, to cover the bankes and ſeats under it. As for the white Poplar or Aſpen tree, it maketh little or no ſhade at all, the leaves keepe ſuch a wagging and trembling, and never hang ſtill. The ſhaddow of the Alder M
tree is fat and battle, it feedeth whatſoever is ſowne or ſet under it. The Vine hath ſhade ynough to ſerve her owne turne: the leaves are ever ſtirring, and by their motion and turning often too and fro, there is a good temperature of ſhade and Sunne by that meanes: they ſerve alſo in ſteed of a couvert in time of raine, and beare off a good ſhower. Generally, all trees in manner that

have

A have their leaves hanging by a long taile, caſt but a light and ſlender ſhaddow. And in very truth the knowledge hereof would not be contemned, nor ſet in the laſt place of ſuch points as belong to husbandrie, conſidering there is not the ſhaddow of any one tree, but either is a kind nource, or a ſhrewd and curſt ſtepdame, that is to ſay, either profitable or incommodious to all the fruits of the earth. For without all queſtion, the ſhade of Walnut trees, Pine trees, Pitch trees, and Firs, is no better than poiſon to all that is within the compaſſe of it, and kils whatſoever it toucheth. And thus much of Shadowes.

As touching the dropping of trees, a man may conclude in one word all that belongeth thereunto. For looke what trees ſoever be ſo defended and clad with thicke leaved branches, that the raine cannot paſſe readily through them, bee ſure the dropping and diſtillation of ſuch is
B naught and daungerous. And therefore it skilleth very much in this matter and queſtion now in hand, to know the nature of the earth wherein wee meane to plant, how many trees it may well beare and nouriſh. As for hils, they require of themſelves not ſo great diſtance betweene tree and tree, as the plaines beneath: beſides, in ſuch places expoſed to the wind, it is good that they bee planted thicker. Howbeit, Olives require the greateſt ſpace betweene of all others: and therefore *Cato*, following the judgement of all Italie, ordaineth in theſe words, That they ſhould ſtand aſunder five and twentie foot at the leaſt, and thirtie at the moſt: but this rule holdeth not alwaies; for herein guided wee muſt bee by the nature and ſite of places, which varie and differ much. For in Bœtica, which is a part of Spaine, there is not another tree growing, bigger than the Olive: and if we may give credite to authors that have written hereof, there bee in Affricke, by their re-
C port, many of them called Milliariæ, for that every yeare they yeeld a thouſand pound weight of oile, apeece. And therfore *Mago* allowed threeſcore and fifteene foot every way, for diſtance betweene Olive trees, or els five and fortie at leaſt, even in leane and hard grounds, and thoſe that were expoſed to the winds. And in Bœtica verily, the people uſe to reape great plentie of corne among Olive trees.

Now of all other follies this is one, and bewraieth ſhamefull blindneſſe and ignorance, To be driven to make glades betweene trees when they be growne to a good bigneſſe: and namely, either by lopping their boughs too much for to let in light betweene, and ſo by this meanes to haſten their age and decay; or els to draw them by cutting them downe cleane: wherein oftentimes they that did ſet them at firſt, take themſelves in the manner, and blame their owne want of skill.
D Conſidering therefore, that there is no greater ſhame can happen to husbandmen than to repent when a thing is done, and then goe about to undoe it, much better it is of the twain in this caſe, to fault in overwide, than too ſtreight roume.

Chap. xiii.

What trees grow but ſlowly: and which they bee that ſoone come forward: alſo, of the Savine.

E Some trees by nature are ſlacke of growth, and principally thoſe that come of ſeed, and live longeſt. But ſuch as ſoone decay and die, are quicke of growth, as the Fig tree, Pomgranate tree, Plum-tree, Apple-tree, Peare-tree, Myrtle, and Willow: but they make amends for their ſhort life in this, that they goe before others in fruit, and enrich their maiſters quickly, for they begin to beare well at three yeares age, yea, and they make a ſhew thereof in their bloſſome before. Of all theſe the Peare-tree is the ſloweſt. But the Cypirus, as well the true and legitimate as the baſtard (which is a ſhrub called Pſeudo-Cypirus) come faſteſt forward of any other, for they beare at firſt both bloſſome and fruit. This is a generall thing obſerved, That all trees will thrive and proſper better, yea, and grow ſooner to perfection, if the ſhoots and ſuckers that put out at the root, as alſo other water twigs, be rid away, ſo that all the nouriſhment may bee turned to the principall ſtocke onely.

The worke of Nature in ſending out theſe ſprigs, taught us the feat to couch and lay ſets in
F the ground by way of propagation: and even after the ſame manner briers and brambles doe of themſelves put forth a new off-ſpring: for growing as they do, ſmall and ſlender, and withall running up to be very tall, they cannot chuſe but bend and leane to the ground, where they lay their heads againe, and take freſh root of their owne accord without mans hands: & no doubt, overgrow they would and cover the whole face of the earth, were they not repreſſed and withſtood

by

by good husbandrie. The consideration whereof maketh mee to enter into this conceit, That men were made by Nature for no other end but to tend and looke unto the earth. See yet what a commodious device wee have learned by so wicked and detestable a thing as this bramble is, namely, to lay slips in the ground, and quick-sets with the root. Of the same nature is the Yvie also, even to grow and get new root as it creepeth and climbeth. And by *Catoes* saying, not onely the Vine, but Fig-trees and Olives also, will grow & encrease of cuttings couched in the ground; likewise Pomgranate trees, all kinds of Apple-trees, Baies, Plum-trees, Myrtles, Filberds, Hazels of Prænestе, yea, and Plane-trees. Now be there two waies to encrease trees by way of propagation or enterring their twigs. The first is, to force a braunch of a tree as it groweth, downe to the ground, and so to couch it within a trench foure foot square every way; and after two years to cut it atwo, where it bent from the tree; and after three yeares end to transplant it. But if a man list to have such plants or young trees to beare longer, the best way were to burie the said braunches at the first within mould, either in paniers or earthen vessels, that when they are once rooted, they might be removed all whole and entire in them, and so replanted. The second, is a more curious and wanton devise than this, namely, to procure roots to grow upon the very tree, by carying & conveighing braunches, either through earthen pots or oisier baskets, full of earth, thrust close unto the said braunches: and by this meanes, the branches feeling comfort of the warme earth enclosing them on every side, are easily intreated to take root, even among Apples & other fruits, in the head of the tree, (for surely by this meanes we desire to have roots to chuse, growing upon the very top.) So audacious are men and of such monstrous spirits, to make one tree grow upon another, far from the ground beneath. Thus in like manner as before, at two yeares end, the said impes or branches that have taken root, be cut off and caried away in the foresaid pots or paniers, thither where they shall grow. As for the Savine, an hearbe or plant it is that will take if it bee in this sort couched in the ground: also, a sprig if it be slipped off clean from the stocke, will come againe and root. Folke say, that if a man take wine lees, or an old bricke out of the wall broken small, and either poure the one, or lay the other about the root, it will prosper and come forward wonderfully. In like manner may Rosemarie be set as the Savine, either by couching it, or slipping off a branch from it; for neither of them both hath any seed. To conclude, the hearbe or shrub Oleander, may be set of an impe, and so grow, or els come of seed.

Chap. xiiii.

Of encreasing trees by seed: the manner of graffing one in another: how the fine devise of inoculation by way of scutcheon and emplaister was devised.

NAture not willing to conceale any thing from man, hath also taught him to engraffe trees with their seed and graine. For oftentimes it happeneth, that birds being hungrie, have greedily gobbled up seed and fruit whole and sound, which after they have moistened in their gorge, and tempered it also with the warmth and naturall heat of their stomacke, they send forth and squirt out againe when they meute, together with their dung, that giveth unto it a vertue of fecunditie, and so lay it upon the soft beds of tree leaves, which many a time the winds catch and drive into some clifts and cranies of the barke: by meanes whereof, wee have seene a Cherie tree upon a Willow, a Plane tree upon a Lawrell, a Lawrell upon a Cherie tree: and at one time Berries and fruits of diverse sorts and sundrie colours hanging at one and the same tree. It is said moreover, that the Chough or Daw hath given occasion hereof, by laying up for store, seeds and other fruits in crevises and holes of trees, which afterwards sprouted and grew. From hence came the manner of inoculation or graffing in the scutcheon, namely, to cut out a parcell of the barke of that tree which is to be graffed, with a sharpe knife made in manner of a shomakers nall-blade; & then to enclose within the said concavitie, the eie or seed taken out of another tree with the said instrument. And in old time verily this was the onely manner of inoculation used in Fig-trees and Apple-trees. *Virgil* teacheth us to open a concavitie in the knot or joint of a bud that driveth out the barke, and within it to enclose the gem or bud taken out of another tree. And thus much for the graffing that Nature hath shewed.

But there is another way of graffing, which casualtie and chaunce hath taught. And to say a truth, this Maister hath shewed well neare more experiments, now daily practised, than Nature her selfe. Now the manner of it came by this occasion: A certain diligent and painefull husband-

man,

A man, minding to mound and empale his cottage round about with a fence of an hedge; to the end that the ſtakes ſhould not rot, laid a ſill under them, of Ivie wood: but ſuch was the vitall force of the ſaid Ivie, that it toke hold faſt of the ſtakes and claſped them hard, inſomuch as by the life thereof, they alſo came to live; and evident it was to the eye, that the log of Ivie underneath, was as good as the earth to give life and nouriſhment unto the ſtakes afore-ſaid.

To come then unto our graffing, which wee learned by this occaſion: firſt, the head or upper part of the ſtocke muſt be ſawed off very even, & then pared ſmooth with a ſharpe garden-hook or cutting-knife: which done, there offereth unto us a two-fold way to performe the reſt of the worke: The firſt is, to ſet the graffe or Sion betweene the barke and the wood: for in old time truly, men were afraid at firſt to cleave the ſtocke; but ſoone after they ventured to bore a hole
B into the very heart of the wood: and then they ſet faſt into the pith juſt in the mids thereof, but one Sion or graffe; for by this kind of graffing, impoſſible it was that the ſaid pith ſhould receive or beare any more. But afterwards they deviſed a finer and more ſubtle invention to graffe, by cleaving the ſtocke gently through the mids; and after this manner they might well ſet into it ſix imps or Sions at once: as being perſuaded, that by ſuch a number they might ſupply the defect of any, if they chaunced to die or miſcarrie any way. Now when the ſaid clift was made, they held it open with a wedge of wood put betweene, untill ſuch time as the impe or graffe beeing thwitted thin and ſharpe beneath, were ſet handſomely cloſe within the rift. In the practiſe of which feat, many points are to be obſerved: firſt and foremoſt, it would be conſidered, what trees will thus ſort togither and be united; namely, what ſtocke will beare this manner of engraffing,
C and of what tree an impe or Sion will agree well to be ſet into it: for be ye ſure of this, all trees are not alike, neither have they all their ſap in one and the ſame part. Vines and Figge-trees are drier in the mids of the tree, than in the head; and toward the top they are more apt to take and conceive, and therefore from thence it is good to make choiſe of impes to be graffed. Contrariwiſe, the ſap of Olives is moſt frim about the mids, and from thence they affourd Sions; for the tops are drie. Moreover, ſooneſt of all other doe thoſe trees incorporate one into another, if when the ſtock and graffe have barks both of one nature, if they bloſſome togither at one time, if they bud and put forth their ſpring at the ſame ſeaſon, and laſt of all, if their ſaps doe agree one with another. On the other ſide, long it will be ere they take, when the ſtock is drie and the graffe moiſt; or when the barke of the one is tender, and of the other tough and hard. Over and be-
D ſides, carefull heed muſt be taken in this buſineſſe, That the ſtocke is not cloven in a knot; for the churliſh hardneſſe thereof will not willingly receive and entertaine a gueſt: that choiſe alſo be made of the ſmootheſt and faireſt place in the ſtocke, where the graffe would be ſet: *Item*, That the clift be not above three fingers deepe; that it be ſtreight and direct; and laſtly, that the impe ſtand ſo cloſe barke to barke in the ſocket, that a man may not ſee betweene it and the ſtocke. *Virgil* will in no wiſe have a Sion or graffe to bee taken from about the top of a tree, for ſuch are all naught. But this one thing is generally held for certain, That the good imps to be graffed are thoſe, which bee gathered from thoſe armes of the tree which regard the Sun-riſing in ſummer time: *Item*, That all ſuch graffes come from the boughs that beare well: alſo that they bee new tender ſhoots of the laſt yeare (unleſſe they are to be graffed in the ſtocke of an old tree, for then
E there ſhould be choſen ſuch as are ſtronger:) moreover, this is to be regarded, that they be well budded, yea and knotted too, making ſhew and giving good hope even then, that they would beare fruit the ſame yeere: but in any wiſe the ſame ought to be of two yeares growth at leaſt, and not ſmaller beneath toward the ſtock than a mans middle finger. As for the graffes, the manner is to ſet them in the ſtocke with the leſſer end downward, when our purpoſe is, that the tree ſhould ſpread rather in breadth, than run up in heigth. Above all, it would be looked well unto, that they be neat and bright, ſo as they ſhine againe; that no part of them be ſeene either ſcorched drie with the ſunne, or cicatrized (as it were) and bliſtered. Good hope there is that the graft will take, if the pith or marow of the ſion doe fall jumpe with the joynt, ſo as it joyne cloſe to the wood and inner barke of the mother ſtocke: for this is farre better than to let it meet juſt
F and even with the bark without-forth. Moreover, a carefull eie muſt be had in thwitting & ſharpning the graffe or impe, that the heart or woodie ſubſtance bee not ſtript all naked or left bare: howbeit gently and with a light hand a man muſt goe over it with a fine and ſharpe inſtrument, in ſuch ſort, as it may goe downe into the clift wedgewiſe, no deeper than three fingers bredth: the which may right eaſily be done, if it be ſhaven and pared preſently after it hath been dipped

in water. Moreover, wee ought be well advised, that wee sharpen not the end of a graffe in the G
wind, and that the barke goe not either from it or the stocke. As for the graffe it selfe, it must be
driven downe into the clift, close to the shoulder where the owne barke goeth round, and from
whence you began to sharpen it: but take heed in thrusting and forcing thereof, that it stand not
out of joynt, ne yet that the barke thereof turne up in wrinkles: and therefore chosen they would
not be which are over moist, no more (I assure you) than those that be too drie; for as the ex-
cessive humiditie of the one looseneth the rind, so the want of vitall moisture in the other, will
not suffer it to unite and concorporate. Over and besides, in the working of this feat, men observe
a certaine religious reverence, namely, that the sions be set into the stocke when the moone is
croissant, (to wit, before the full) and with both hands forsooth, or els all is marred: and other-
wise in this businesse there is an opinion, that two hands togither are put to smaller streisse, and H
have better stay of themselves than one alone; and therefore such a moderation is right neces-
sarie: for the more forcibly the graffes be set into the stocke, & the faster that they are setled, the
longer it will be ere they take to beare; but surer they be, and continue the longer: contrariwise,
if they stand slacke, the tree indeed will the sooner beare, but last the lesse while. Furthermore,
regard would be had in this case, as well that the clift of the stocke gape not too much (as being
over wide for the graffe;) as that it be not too little and over-streight, for feare that either it flurt it
out againe, or claspe it and gird it so hard that it kill it quite. This principally we must take heed
of at the first, that there be no spill or little chip left behind in the mids of the clift, nor any thing
besides the graffe it selfe, to fill up the place. Some there be, that enter the clift first in the stocke,
with a bill, and with an osier twig tye and bind up the very brims or edges thereof: which done,
they drive the wedges in, to make such an overture as is meet; for by reason of the foresaid I
bonds, they need not feare the gaping of it too wide. Some stocks there be which the very same
day that they bee graffed in the nource-garden, are without any harme remooved to the place
where they must grow. If the stocke wherein you graffe be bigge and round, the best way is to set
the sion betweene the barke and the wood thereof, and to devide the one from the other with a
wedge of bone, least in enlarging of the barke it chaunce to breake. In graffing of a Cherie tree
stocke, the over rind or barke would bee taken away before the clift bee made. [Now these trees
alone of all others may be graffed very well presently after mid-winter.] When the said rind is
gone, you shall see therein a certaine downe, which if it chaunce to claspe about the graft, it rot-
teth the same incontinently. But to returne againe to our worke of graffing: After the wedge is
taken forth whole and sound at the point, (which is a token that no spill remaineth within) you K
may bee bold to bind the head of the stocke all about. Yet this would be considered by the way
(which I had like to have forgotten) that the best and handsomest graffing, is as near the ground
as may be, in case the knots will give leave and the stocke beare it: also that the grafts would not
conveniently stand without the stocke above six fingers breadth. Now when all is done and sure
worke made (as hath been said) *Cato* willeth us to take clay, or the sandie grit of chalke, mixed
togither with oxe or cow shearn, to worke & temper all these togither in manner of a tough past
or cataplasme, and then to lay the same within the clift, & round about to daube all. And verily
by this and other such rules which he hath left in writing, it appeareth plainly, that in those daies
the manner was to graffe betweene the barke and the tree, and not otherwise; as also to set the L
sions in the stocke, not above two fingers deepe. As for Apple trees and Pyrries, he prescribeth
that they should be graffed in the Spring; also fiftie daies after the Summer sun-stead, & againe
after vintage: but Olives and Fig trees in the Spring onely, observing the age and disposition of
the Moone, when she is in the wane and thirstie, that is to say, drie: moreover, after noontide,
and when no Southerne wind doth blow. And I cannot chuse but wonder much at the curiosi-
tie and double diligence of *Cato*, who not content to have defended the graft with clay or past
aforesaid, yea and to preserve it with turfe and mosse against the injurie of rain and cold, to have
bound it about also with little knitches of soft osier twigs slived in twaine; but must give charge
besides to cover it with Oxe-tongue (a kind of hearb there is so called) *i.* Buglosse: and yet he
hath not done, but the same must be fast bound with wispes and wreaths of straw and litter aloft. M
Now adaies men make no more adoe, but thinke it sufficient to stop and close up barke and all,
with earth or clay and chaffe tempered togither; thinking it sufficient, if the graft beare out two
fingers breadth above. They that wait upon the Spring season for to graffe, are many times
driven to their shifts for want of time, by reason that all trees make hast then to bud, & do break

A out of a sodain; unlesse it be the Olive, the oilets or eyes whereof be longest while in comming forth, as having least sap of all other, running under the barke; the which if it were overmuch, would stifle and choke the grafts. As for the Pomegranat and Fig tree, howsoever otherwise they seeme to be drie, yet good it is not to deferre and put off the grafting of them. The Peare-tree may well enough be graffed with the blossome on the head, and it makes no matter if a man doe stay, and graffe it within the moneth of May. To be short, if a man bee constrained to fetch his sions or imps of Apple trees and such like, farre off, it is thought that they will keepe their sap best, if they be stucke or set fast in a Rape root. Also if one would preserve them a certaine time before they should be occupied, it is passing good to lay them close between two crest tiles, well stopped on every side with earth, and that neare to some rivers or fish-ponds.

B

Chap. xv. *The manner how to graffe a Vine tree.*

AS for the cuttings or sets of Vines, they may bee kept well a long time, covered all over with straw or litter in drie ditches; and afterwards they are to be laid within the earth, all hilled or covered, save only that their heads be seene above ground. *Cato* graffeth a vine stocke three manner of waies: First, he willeth that the mother stocke should be cut overthwart, and then cloven through the very pith or heart in the mids, wherein hee would have the young imps (thwitted and sharpned as is beforesaid) to be set and engraffed so, as the marow of the one and the other may joyne and meet just togither. The second manner is, when two vine stocks do reach one to the other, for to cut byas or aslaunt (after the manner of a Goats foot) two twigs or
C braunches, of either one, with this regard, that these cuts be of a contrarie side the one unto the other, and withall so deep, as that they come unto the pith or heart; then to fit one to the other, joyning pith to pith, and then binding them fast togither so close, that no aire may enter between, untill such time as the one hath adopted the other. The third devise is, to bore holes in an old vine, not directly but aslope, as far as to the pith; and then to put into them young imps two foot long, and to bind them fast: which done, to make a certaine batter or morter [with clay, beast dung, and sand togither] and therewith to dawbe the place; but with this regard, that the graft stand halfe upright or somewhat leaning. This manner of grafting hath been checked and corrected of late daies by our countrymen, who leaving the hand-piercer have taken the French vibrequin or breast-wimble, which gently and quickly boreth a hole, and hurteth not the wood:
D for all chafing heat caused by the said piercer, dulleth the vigor both of stocke and impe. Also they have devised, that the said impe to be engraffed, be gathered from the tree when it beginneth to bud or burgen; & when it is set into the stocke, that it be left standing out with no more than two eyes or buds out of the grafting place; that it be well bound also with the winding rods of an Elme: moreover, that on either side of it, the mother-stocke be slit or cut in two places on both sides, to the end that from thence rather than otherwise, the wateriſh humour may distill and drop forth, which of all things hurteth vines most. After all this, they would have the said graffe remaine bound, untill such time as it have put foorth shoots two foot long; and then the foresaid bands to be cut in sunder, that they may burnish in thickneſſe and at ease accordingly. The season which they have allowed for to graft vines, is from the Æquinoctiall in Autumne
E unto the time that they begin to bud foorth. Generally all trees that are tame and gentle, may well be graffed into stockes and roots of the wild, which by nature are more drie: contrariwise, graffe the wild and savage kind upon the other, you shall have all degenerate, and become wild. Touching other points belonging to the feat of grafting, all dependeth upon the goodnesse or malignitie of the skie and weather. In summe, a drie season is good for all trees grafted in this manner: and say that the drought were excessive, there is a good remedie for it, namely, to take certaine earthen pots of ashes, and to let water distill through them softly, by little and little to the root of the stock. As for inoculation, it loveth small dewes otherwhiles, to refresh both stock, scutcheon, and oilet.

Chap. xvi.

F

Of Emplastration or graffing with the Scutcheon.

THe manner of graffing by way of emplastre or scutcheon, may seeme also to have come from inoculation: and this devise agreeth best with those trees that have thicke barkes, as namely Fig trees. To goe therefore artificially to worke, the mother stocke or tree to bee

graffed, must be well rid and cleansed from the braunches all about the place where you meane G
to practise this feat, because they should not sucke the sap from thence; and chuse the neatest and frimmest part, which seemeth most fresh and lively: then cut forth a scutcheon of the barke, [but be carefull that your instrument pierce no farther than the barke, nor enter into the quicke wood:] which done, take from another tree the like scutcheon of the barke, saving the eye or bud thereon, and set it in the place of the other; but so equall this must be to the place and so close joyned and united to it, that a man may see no token at all or apparence in the joynt, of any wound or skarre made; to the end, that presently they may concorporate, that no humor of the sap may issue forth, nor so much as any wind get between: and yet to make sure worke, the better way is to lute it well and close with clay, and then to bind it fast. This devise of grafting thus with the scutcheon, was but lately found out, by their saying, that favour all new and moderne in- H
ventions: howbeit I find that the auncient Greekes have written thereof; yea and *Cato* also our owne countryman, who ordained to graffe both Olive and Fig tree in that order: and (as he was a man very diligent and curious in all things that he tooke in hand) hee hath set downe the just measure and proportion of the scutcheon: for hee would have the barkes both the one and the other, to be cut out with a chizell foure fingers long, and three in breadth, and so to close up all in manner aforesaid, that they might grow togither; and then to be dawbed over with that morter of his making aforesaid: after which manner, Apple trees also may be graffed.

Some there be, who have intermingled and comprehended under this kind of graffing with the scutcheon, that devise of making in the side a cleft, and namely in vines; for they take forth a little square peece with the barke, and then set in an impe very hard and close, on that side where I
it is plaine and even, to the very marow or pith. Certes, neare to Tuliæ in the Tyburtines countrey, I have seene a tree graffed all these waies aboveſaid, and the same laden with all manner of fruits; one bough bearing Nuts, another Berries, here hung Grapes, there Figs; in one part you should see Peares, in another Pomegranats; and to conclude, no kind of Apple or other fruit, but there it was to be found: mary this tree lived not long. Howbeit, let us use what diligence we can, yet never shall we be able with all our experiments, to attaine unto the depth of Natures secrets. For some trees there be, that come up of themselves, and by no Art and industrie of man will be made to grow; such also love ordinarily to be in wild forrests and in rough desarts, where they prosper well: whereas the Plane tree will beare all manner of graffing best of any other; and next unto it, the wild hard Oke: but both the one and the other corrupt and marre the tast K
of what fruit soever is graffed thereupon. Some trees there be, that refuse not to be engraffed upon any stock, and what way soever they be graffed it skills not, as Fig trees and Pomegranat trees. As for the Vine, it will not beare the scutcheon; neither any tree besides that hath a thin barke, or which doth pill and rift: no nor such as be dry or have small store of sap within them can away with inoculation. Howbeit this manner of graffing is most fruitfull of all other; and next to it, that which is done by way of scutcheon or emplastre: yet trees so graffed, be of all others most tender and feeble: as also such as rest and stay upon the barke only, are with the least wind that is, soonest displanted and laid along on the ground. The surest and strongest way therefore is, to graffe imps upon the head of a stocke, yea and more plentifull by farre than to sow them of seed, or plant them otherwise. L

Chap. xvii.

An historie, shewing the example and proofe hereof.

IN this discourse and question concerning grafts, I cannot passe over the rare observation of one example, practised by *Corellius* a knight of Rome borne at Ateste: This gentleman of Rome, in a ferme that he had within the territorie of Naples, chaunced to graffe a Chestnut with an impe cut from the same tree: This graft tooke and bare faire Chestnuts and pleasant to the tast, which of him tooke their name. After the decease of this gentleman, his heire (who had been sometime his bondslave and by him enfranchised) grafted the foresaid Corellian Chestnut M
tree a second time: and certainly betweene them both was this difference, The former Corellian bare the more plentie, but the nuts of the other twice graffed were the better. As for other sorts of graffing or planting, mans wit hath devised, by observing that which hath falne out by chaunce: thus are we taught to set broken boughs into the ground, when wee saw how stakes pitched

A ched into the earth,tooke root.Many trees are planted after that manner;and eſpecially the Fig tree, which will grow any way, ſave onely of a little cutting: but beſt of all, if a man take a good big braunch thereof, ſharpen it at the end in manner of a ſtake, and ſo thruſt it deepe into the ground, leaving a ſmall head above the ground, & the ſame covered over with ſand. The Pomegranat likewiſe and the Myrtles, are ſet of braunches, but the hole firſt ought to bee made eaſie and large with a ſtrong ſtake or crow of yron. In ſumme, all theſe boughs ought to be three foot long, ſmaller in compaſſe than a mans arme, ſharpned at the one end, and with the barke ſaved whole and ſound with great care. As for the Myrtle tree, it will come alſo of a cutting; the Mulberrie will not otherwiſe grow: for to couch and plant them with their braunches,we are forbidden,for feare of the lightnings. And foraſmuch as we are falne into the mention of ſuch cuttings,
B I muſt now ſhew the manner of planting them alſo: above all things therefore regard would be had,that they be taken from ſuch trees as be fruitfull, that they be not crooked, rough, and rugged, nor yet forked; ne yet ſlenderer than ſuch as would fill a mans hand, or ſhorter than a foot in length. *Item*, That the barke be not broken or raſed; that the nether end of the cut be ſet into the ground, and namely,that part alwaies which grew next the root; and laſt of all, that they be banked well with earth about the place where they ſpring and bud forth, untill ſuch time as the plant have gotten ſtrength.

Chap. XVIII.

C *The manner of planting, ordering, and dreſſing Olive trees. Alſo which be the convenient times for graffing.*

WHat rules (by the judgement of *Cato*) are to be obſerved in the dreſſing and husbanding of Olives, I thinke it beſt to ſet downe here word for word, as he hath delivered them. Thus he ſaith therfore: The truncheons or ſets of Olive trees which thou meaneſt to lay in trenches,make them three foot long; handle them gently and with great care,that in cutting,ſharpning, or ſquaring them, the barke take no harme nor pill from the wood. As for ſuch as thou doeſt purpoſe to plant in a nource-garden for to remoove againe, ſee they be a foot in length,and in this manner ſet them: Let the place be firſt digged throughly with a ſpade untill it be well wrought, lie light,& brought into temper: when thou putteſt the ſaid truncheon
D into the ground,beare it down with thy foot; if it go not willingly deepe enough by that means, drive it lower with a little beetle or mallet; but take heed withall, that thou rive not the barke in ſo doing. A better way there is, To make a hole firſt with a ſtake or crow before thou ſet it into the ground, and therein maiſt thou put it at eaſe, and ſo will it live alſo and take root the ſooner: when they be three yeeres old,have then a carefull eye to them in any caſe, and marke where and when the barke turneth. If thou plant either in ditches or furrowes, lay three plants togither in the earth, but ſo as their heads may ſtand a good way aſunder above the ground; alſo that there be no more ſeene of them than the breadth of foure fingers; or els (if thou thinke good) ſet the buds or eies only of the Olive. Moreover,when thou art about to take up an Olive plant for to ſet againe,be warie and carefull that thou breake not the root: get as many ſpurs or ſtrings thereof
E [called the beard] as thou canſt,earth and all about them: and when thou haſt ſufficiently covered thoſe roots with mould in the replanting, be ſure thou tread it down cloſe with thy foot, that nothing hurt the ſame.

Now if a man demaund and would gladly know what is the fitteſt time for planting Olives, in one word I will tell him; Let him chuſe a drie ground in ſeed time [*i.* in Autumne,] and a fat or battle ground in the Spring: furthermore,begin to prune thy Olive trees fifteen daies before the Æquinox in the Spring, and from that time forward for the ſpace of fortie daies,thou canſt not doe amiſſe. The manner of pruning or disbraunching them, ſhall be thus, Looke where thou ſeeſt a place fertile,if thou ſpie any drie or withered twigs, or broken boughs that the wind hath met withall, be ſure thou cut them away every one: but if the plot of ground be barraine,
F eare it up better with the plough, take paines (I ſay) to till it well, to breake all clots and make it even; to cleanſe the trees likewiſe of knurs and knots, and to diſcharge them of all ſuperfluous wood: alſo about Autumne bate the earth from about the roots of Olives, and lay them bare, but in ſtead thereof put good mucke thereto. Howbeit if a man do very often labour the ground of an Olive plot, and take a deepe ſtitch, hee ſhall now and then plough up the ſmalleſt roots

thereof, so ebbe they will run within the ground, which is not good for the trees: for in case they spread aloft, they will wax the thicker, and so by that means the strength and vertue of the Olive will turne all into the roots. G

As touching all the kinds of Olive trees, how may they be; also in what ground they ought to be set, and wherein they will like and live best; likewise, what coast of the heaven they should regard; we have shewed sufficiently in our discourse and treatise of Oile. *Mago* hath given order in his bookes of husbandrie, that in planting them upon high grounds, in drie places, and in a veine of clay, the season should bee betweene Autumne and midwinter: but in case you have a fat, moist, or watersh soile, hee setteth downe a longer time, namely, from harvest to midwinter. But this rule of his you must take to be respective to the climat of Africke only: for in Italy at this day verily, men use to plant most in the Spring: howbeit if a man hath a mind to be doing H
also in Autumne, hee may be bold to begin after the Æquinox; for during the space of fortie
*Vergiliæ. daies togither, even to the setting of the * Brood-hen starre, there are no more but fourteene daies ill for planting. In Barbarie, the people have this practise peculiar to themselves, For to graft in a wild Olive stocke; whereby they continue a certaine perpetuitie: for ever as the boughs that were graffed and (as I may say) adopted first, wax old and grow to decay, a second quickely putteth forth a fresh, taken new from another tree, and in the same old stocke sheweth young and lively; and after it a third successively, and as many as need; so as by this meanes they take order to eternize their Olives: insomuch as one Olive-plot hath been knowne to have prospered in good estate, a world of yeares. This wild Olive aforesaid, may be graffed either with sions set in a clift, or els by way of inoculation with the scutcheon aforesaid. But in planting of Olives, I
this heed must be taken, that they be not set in a hole where an Oke hath been stocked up by the root: for there be certain canker-worms (called Erucæ in Latine, or Raucæ) breeding in the root of an Oke, which eat the same, and no doubt will doe as much by the Olive tree. Moreover, it is found by experience better for Olive trees, that their sets be not interred in the earth, nor yet dried, before they be planted. Also, the same experience hath taught, that for old Olive trees (overgrowne with a kind of mossie skurfe) it is passing good, ech other yeare to scrape and claw them well, betweene the Spring and Æquinox, and the rising of the starr Vergiliæ or the Brood-hen: likewise to bestow mosse round about the root: mary every yeare they would bee digged round about the root and laid bare after the sunstead, with a trench made two cubits broad and a foot deepe: as also once in three yeeres, it were not amisse to cherish them with good dung. K
Over and besides, the same *Mago* saith, that Almond trees ought to bee planted betweene the setting of Arcturus and the shortest day of the yeare. As for Peare trees, they are not to be set all at one and the same time, for they blossome not all alike: they that beare either the long or round Peares, have their season from the occultation of the Brood-hen starre, untill midwinter. All other sorts, and principally those that regard either the East or the North, are to be planted in mid-winter, namely, after the retreat of the starre called Sagitta, [*i.* the Shaft.] The Lawrell would bee put into the ground, from the Ægle starre, unto the fall of the Shaft aforesaid: for certeinly the observation of the time, pertinent to planting of trees, agreeth much-what after this manner; and for the most part men doe accord and ordaine, that it should be done in the Spring and Autumne principally. Another season there is about the rising of the Dog-starre, L
which few men take knowledge of, because it is not so generally practised, nor found alike profitable to all countries: howbeit I must not overpasse it in silence, considering that my purpose is not to speake of this or that countries disposition, but to search into the nature of all things. In Cyrenaica therefore (a region in Africke) they use to set trees about the time that the Etesian Northern winds doe blow: in Greece likewise they doe the same; and namely in Laconia they suppose that to be the best time for the Olive tree: and in the Iland Cos, the manner is then to plant vines also. In all other parts of Greece, they make no doubt to inoculate, and to graffe in that season; but in no wise will they plant whole trees then. But herein it skilleth much to consider the nature of each tract and region: for in Ægypt, they set, plant, and replant, every moneth of the yeare: in Æthiopia likewise, and India; and generally in all countries whersoever M
it raineth not in Summer. Setting these respects aside, trees require of necessitie to be planted in Autumne. Like as therefore there bee three seasons of planting trees, so there are as many wherein they bud and put foorth new shoots; to wit, the Spring, the rising of the Dog-starre, and the apparition of Arcturus. And verily this is a thing worthie to be noted, That not onely

A beasts and other living creatures have an appetite to engender, but the earth also, and all the plants thereupon, are much more lustie and hote that way. And therefore to make them to conceive in due season, the time would be well observed, when they bee as it were in love, and desire the act of generation. And not onely in the earth and trees therein planted, is this to bee seene, but in grafts and stockes also particularly by themselves, since that they have a mutuall and respective appetite, one to joine & incorporat with the other. They that make choise of the Spring for this purpose, begin to put them as it were together for to engender, presently after the Æquinoctiall; giving out in these plaine tearmes, that trees then are broodie and readie to put foorth sprouts: which is the reason, that their barkes at such a time will knit and joine together easily. But such as preferre the Autumne before the Spring, fall to this businesse immediately upon the
B rising of the star Arcturus; for then they suppose, that plants will take root forthwith, and by the time that the Spring is come, they will bee better prepared to put forth lustily: considering that their vertue is not streightwaies spent in budding, but rather employed in taking good root. Howbeit, some trees there be that have their set times and seasons of the yeare limitted, whether it be to plant or to graffe: and the same indifferently in all places, as namely, Cherrie-trees and Almond trees about the midwinter. But for the most part, the situation of the place will be able to guide and order all this matter best: for cold and waterish grounds ought to be planted in the Spring; but drie and hote, in the Autumne. With our peasants here in Italie, it is ordinarie to devide their times and seasons for planting in this manner following, They set out for the Mulberie all the time from the Ides of Februarie to the spring Æquinox: for the Peare tree they allow the
C Autumne, and so forward untill fifteene daies before the point of midwinter, and no longer: for Summer Apples and Quinces, for Servises likewise and Plums, they assigne the space betweene the Winter tropicke or Sunnestead, and the Ides of Februarie. As for Carobes of Greece, and Peach-trees, they have all the Autumne and the whole yeare before them untill mid-winter approch. All Nut trees, as namely, Walnut trees, Pine trees, Filberds, Hazels, and Chestnut trees, would be planted from betweene the first day of March, and the fifteenth thereof. To conclude, the onely time for Willowes & Broome, is about the Calends or beginning of the same March. But of these two last named, the Broome loveth to be set of nource-plants, comming of seed, in drie and light grounds: but contrariwise, the Willow to be set of twigs in moist places, according as we have before said.

D

Chap. xix.

What trees they be that love to sort and keepe companie together. The skill and feat of baring the roots of trees, and also of hilling or banking them about.

THere is besides a new manner of grafting trees, which I will not overpasse: for my purpose is not willingly to omit ought, that I have found in any booke as touching this argument. And *Columella*, as himselfe affirmeth, was the first deviser thereof, namely, to conjoine trees of diverse natures, and such as otherwise cannot abide societie and fellowship together, as for example, Fig trees and Olive trees. He, I say, would have a Fig tree to bee planted neare unto an O-
E live, and so neare indeed, as that a bough or braunch of the Olive may reach unto the Fig tree at ease, considering that it is very supple and pliable otherwise, and readie to follow and bee led as a man would have it: and yet as obedient as it is, hee would have it ever and anone to be handled and made gentle in the meane time, that by this meanes inured first, it may be bent and bowed to the purpose when the time serves. Which done, after that the Figge tree hath gotten some strength, and is growne to sufficient bignesse for to beare a graffe (which ordinarily is at three yeares end, or at the utmost when it is five yeares old) the head thereof must bee cut or sawed off, and then the braunch or bough of the Olive beforesaid, beeing well cleansed and made neat, and the head end thereof (as is beforesaid) thwited and scraped sharpe, howbeit, not yet cut from the mother stocke, must bee set fast in the shanke of the Figge tree, where it must bee
F kept well and surely tied with bands, for feare, that thus beeing forced and graffed arch-wise, it start and flurt not out againe, and returne to the owne. Thus beeing of a mixt and meane nature, betweene a braunch or bough growing still unto the tree, and yet laid in the ground to take new root, and an impe or sion graffed, for the space of three yeares it is suffered to feed and grow indifferently betweene two mothers, or rather by the meanes thereof, two mother-

stockes

ſtockes are growne and united together. But in the fourth yeare it is cut wholly from the owne G
mother, and is become altogether an adopted child to the Fig tree, wherein it is incorporate. A pretie deviſe, I aſſure you, to make a Figge-tree beare Olives, the ſecret whereof is not knowne to every man: but I my ſelfe doe conceive and ſee the reaſon of it well ynough.

Moreover, the ſame regard and conſideration above rehearſed, as touching the nature of grounds, whether they bee hote, cold, moiſt, or drie, hath ſhewed us alſo the manner of digging furrowes and ditches. For in waterie places it will not bee good to make them either deepe or large: whereas contrariwiſe, in a hote and drie ſoile they would be of great capacitie, both to receive and alſo to hold ſtore of water. And verily, this is a good point of husbandrie for to preſerve not onely young plants, but old trees alſo. For in hote countries, men uſe in Summer time to raiſe hillockes and bankes about their roots, and cover them well therewith, for feare leaſt the H
extreame heat of the Sunne ſhould ſcorch and burne them. But in other parts the manner is to dig away the earth, and to lay the roots bare, and let in the wind to blow upon them. The ſame men alſo in winter doe banke the roots about, and thereby preſerve them from the froſt. Contrariwiſe, others in the winter open the ground for to admit moiſture, to quench their thirſt. But in what ground ſoever it be where ſuch husbandrie is requiſite, the way of cleanſing tree roots, and ridding the earth from them, is to dig a trench three foot round about. And yet this muſt not bee done in meddowes, for as much as for the love of the Sunne, and of moiſture, the roots of trees run ebbe under the face of the earth. And thus much verily may ſuffice in generall, for the planting or graffing of all thoſe trees that are to beare fruit.

Chap. xx. I

Of Willow and Oiſier plots: of places where reeds and canes are nouriſhed: alſo, of other trees that be uſually cut for poles, props, and ſtakes.

IT remaineth now to ſpeake of thoſe trees which are planted and nouriſhed for others, and for Vines eſpecially: to which purpoſe, their wood is uſually lopped to ſerve the turne. Among which, Willowes and Oiſiers are the cheefe, and to bee placed in the formoſt ranke: and ordinarily they love to grow in moiſt and waterie grounds. Now, for the better ordering of the Oiſier, the place would be well digged before, and laid ſoft two foot and a halfe deep, and then planted with little twigs or cuttings of a foot and a halfe in length, and thoſe prickt in: or elſe ſtored with good big ſets, which, the fuller and rounder they be in hand, ſo much better they are for to K
grow, and ſooner will they prove to be trees. Betweene the one and the other, there ought to bee a ſpace of ſixe foot. When they are come to three yeares growth, the manner is to keepe them downe with cutting, that they ſtand not above ground more than two foot, to the end that they might ſpread the better in breadth, & when time ſerves be lopped and ſhred more eaſily, without the helpe of ladder. For the Withie or Oiſier is of this nature, that the nearer it groweth to the ground, the better head it beareth. Theſe trees alſo, as well as others, require (as men ſay) to have the ground digged and laid light about them every year, in the month of Aprill. And thus much for the planting and ordering of Oiſier willowes, which muſt bee emploied in binding and winding. As for the other Willow, which affourdeth big boughs for poles, perches, and props, thoſe L
may bee ſet likewiſe of twigs and cuttings, and trenched in the ground after the ſame manner. Theſe lightly every fourth yeare will yeeld good poles or ſtaves, and for that purpoſe would they then be ordinarily cut and lopped. If theſe trees become old, their boughs by propagation may ſtill maintaine and repleniſh the place, to wit, by couching them within the ground; & after they have lien ſo one yeare, and taken root, by cutting them cleane from the ſtocke-father. An oiſier plat of one acre ſtored thus, will yeeld twigs ſufficient for windings and bindinds, to ſerve a vineyard of five and twentie acres.

To the ſame purpoſe men are wont to plant the white Poplar or Aſpe, in manner following. Firſt, a peece of ground, or a quarter, muſt be digged and made hollow two foot deepe: and therein ought to be laid cuttings of a foot and a halfe in length, after they have had two daies drying; M
but ſo, as they ſtand one from another, a foot and a handbreadth, & be covered over with mould two cubites thicke.

As touching canes and reeds, they love to grow in places more wet and wateriſh than either the Willowes and Oiſiers aboveſaid, or the Poplars. Men uſe to plant their bulbous roots, which

ſome

A some call their oilets or eies, in a trench of a span deapth: and those two foot and an halfe asunder. These reeds doe multiplie and encrease of themselves (if a plot be once planted with them) after the old plants be extirped & destroied. And surely, this is found now adaies to bee the better and the more profitable way, even to commit all to Nature, rather than to gueld and weed them out where they seeme to grow over thick, as the practise was in old time: for the manner of their roots is, to creepe one within another, and to be so interlaced continually, as if they were twisted together. The fit and proper time to plant and set these canes or reeds is a little before the Calends of March, to wit, before the oilets or eies above said begin to swell. They grow untill midwinter, at which time they waxe hard, which is a signe that they have done growing: and this is the onely season also for to cut them. Likewise, the ground would be digged about them, as often as Vines. The order of planting them is two manner of waies, for either the roots bee laid overthwart or acrosse, and but shallow within the ground (and looke how many eies there bee in the root, so many plants will spring above the earth;) or else they be pitched downe right, within a grave or trench of a foot deapth, so as there bee two eies or buds under the ground, and the third above, but close and meet with it: but this caveat is to be given, that the head thereof may bend forward toward the earth, for feare that it drinke in any deaw, which might stand and settle upon it. This also is observed, that they be cut ever in the wane of the Moone: as also, before that they are emploied about Vineyards for to beare up Vines; they would have a whole yeares drying, for such are more profitable than the greene.

B

The best staies to beare up Vines, are made of the Chestnut tree: for why? the wood is gentle and tractable; tough withall, and enduring long: besides, it hath this propertie, that cut it when you list, it will spring againe more plentifully than any Willowes. It loveth to grow in a gentle and sandie ground, but principally, if the same stand upon a moist gravell or a hote earth full of little pebbles, and namely, where there is good store of such soft stones, as will soon crumble into grit: neither makes it any matter how much the place be shaddowed, nor how cold and exposed to the Northerne winds, for such it liketh well ynough, yea, although it bee the side or hanging of an hill, as bleake and cold as may bee. But contrariwise, it may not abide the red French earth, the chalkie or marle ground, nor in one word, any that is battle and fruitfull. Set it is of a Nut, as we have before said: but it commeth not up, unlesse there bee five in a heape piled together, and those of the fairest and biggest sort. Moreover, the plot wherein you meane to have

C

D Chestnuts grow, must be ouvertly broken up aloft, from betweene November and Februarie: in which time the Nuts use to bee loose, and to fall of themselves from the tree, and spring underneath, finding the ground light and hollow under them. Betwixt each heape set in manner aforesaid, there ought to be a foot space every way, and the trench wherein they be set, of a span depth. Out of this plot, as out of a seminarie and nource-garden, these young plants are to be transplanted into another, and then they must be set two foot asunder. Howbeit, they ought to bee above two yeares old first, before they be removed and replanted. Moreover, a man may encrease Chestnut-trees by propagation: to wit, by couching and trenching the braunches thereof, as they grow to the mother: and there is not another tree againe that sooner taketh that way, than it doth; for the root thereof being laid bare, the whole braunch must be enterred along in the trench made for

E the purpose, leaving out the end onely above ground. Thus shall you have one tree spring from it, and another from the root. Howbeit, planted in this wise, it loveth not to be transplanted; it cannot lodge elsewhere, but dreadeth and hateth all change of soile: and therefore such plots of ground as doe affourd coppises of Chestnut-trees, are stored with plants comming of marrons or nut-kernels, rather than quick-sets or plants set with the root. For the ordering and dressing of them, there is no other labour required, than in the others before rehearsed; namely, for the two first yeares ensuing to dig the ground loose about their roots, and to proine or cut away the superfluous twigs: for ever after they will shift well ynough, and manure themselves, by reason that their owne shade will kill those superfluous water-shoots that spring out either from the root or the sides of the tree. A coppise of these trees is cut ordinarily within every seventh yeare: and one

F acre of them will yeeld props ynough for to serve a vineyard of twentie acres: for besides that one pole of them will abide to be cloven and make two props apeece, they will last very well untill the next fall of the wood or coppis be past.

Moreover, the Mast-tree called Esculus, is planted and commeth up in like sort: howbeit, passing untoward and unwilling they are to grow, and therefore they stand ten yeares at least before

they

they be cut and lopped. Set Acornes of this tree Esculus whersoever you please, they will surely take and come up: but the trench must be a span deepe, and the Acornes two foot asunder. And foure times in the yeare are they to be lightly *raked and cleansed from weeds. A forke or prop made of this wood, lasteth very well and rotteth not: and in very truth, the more that the tree it selfe is cut and mangled, the better it springeth and putteth forth new shoots. G

*Suvitle.

Over and besides these trees abovenamed, there bee others that use to be cut and lopped for Vine props and staies, to wit, the Ash, the Bay tree, the Peach, and Hazell tree, yea, and the Apple tree: but these are all of them lateward and slow of growth: neither will they endure so well without rotting, if they stand any time in the ground, and much lesse will they abide any wet. But on the other side, the Elder tree of all others is most firme for to make poles and stakes of. It will grow of sions and impes even as the Poplar. As for the Cypresse tree, we have of it spoken sufficiently alreadie. H

Chap. xxi.

The manner and skill of husbanding and dressing Vineyards.

NOw that we have treated sufficiently of the instruments, furniture, and tackling (as it were) belonging to Vineyards, it remaineth to speake of the nature of Vines, and to deliver with especiall regard the manuring and dressing them. According therefore as wee may see in Vines and some other trees, which have within them a spungeous matter and light substance, their twigs and braunches doe containe a kind of marrow or pith enclosed between certain knots or joints wherewith their stalkes are devided and parted. As for these fistulous concavities, they are but short all of them, and toward the top shorter and shorter, but evermore betweene two knots, they enclose the joints aforesaid. Now this marrow, this vegetative and vitall substance, I say, (call it whether you will) runneth forward still on end all the length of the hollow kex or pipe so long as it findeth no resistance by the way: but meeting once with a joint or hard knot which maketh head upon it, not suffering the same to passe forward, it being driven backe, returneth downeward: howbeit, in that reverberation, breaketh out under those knots, and putteth foorth certaine wings or pinnions like arme-pits, whereas the buds or leaves doe come; but alwaies in alternative course, one of this side, and another of that; after the manner of reeds, canes, and fennell-geant, as hath been shewed before: in such wise, that if one wing rise forth at the bottome of the lower knot on the right hand, another springeth for it on the left hand in that next above it; and thus they keepe order the whole length of the braunch. These sprouts when they are come once to some bignesse, and do braunch there, bee called of the Latines by a prettie name, Gemmæ, as it were precious stones: but so long, as they are no other than buds sprouting foorth under the concavitie or pit-hole of the foresaid joints, they tearme them Oculos, [i. Oilets or Eies:] marie in the very top they be named by them Germina [i. Sprigs or Burgeons.] After this order are engendred the maine braunches, the smaller *sprigs yearely cut away, the grapes, leaves, and yong tendrils of Vines. But hereat I wonder most, that the burgeons comming forth on the right side, be alwaies more tough and firme than those of the left. To come now unto the planting of these Vines: The shoots or branches must bee cut just in the middest betweene the foresaid knots or joints, so as the marrow in no wise run out. And if you would plant fig-sets or sions, they ought verily to be a span long, and then to be prickt into the ground, (but first there should bee a hole made with a little stake) with the greater end that grew next to the bodie of the tree downeward: provided alwaies, that two oilets or buds stand above ground. Now these oilets are properly (in twigs or sets of trees) those buds called, where the new Spring first shooteth forth. And hereupon it is, that these sions or cuttings being set in nource-gardens, beare the same yeare that very fruit which they would have borne upon the tree, if they had not been cut off: and namely, if they be set in the right season whiles they be plumpe and full: for having conceived on the tree, they doe consummate the sad conception so begun, and are delivered thereof elsewhere. And looke what Fig-sets be in this manner planted, may be easily and without daunger remooved and translated the third yeare after. For certes, as this tree of all others soone ageth and endureth not long: so in recompence of short life, this one gift it hath of Nature, That it commeth forward apace, quickly groweth to the full bignesse, and beareth fruit. I K L M

*Nepotes.

As for the Vine, there is not a tree that is planted more sundrie waies, nor affourdeth greater

store

A ſtore of ſions or ſets than it. For firſt and formoſt, nothing thereof is planted, but that which is unprofitable, hurtfull, ſuperfluous, and of neceſſitie to be pruned and cut away. But in the pruning, this rule muſt be obſerved, that thoſe braunches bee cut off which were portoirs and bare grapes the yeare before. The manner in old time was to plant or ſet a ſion; headed (as it were) and taking hold on both ſides of the old wood and hard ſtocke: whereupon, becauſe it was faſhioned like a little mallet or hammer head, it was and is at this day called in Latine Malleolus. But afterwards they began to ſlip off a twig with a heele onely of the old wood (as they uſe to do in a Fig-tree:) and there is not a better way to make a Vine ſurely to take and live than this. A third ſort there is beſides of ſions or ſets which are more readily gotten, without any ſuch heele of the hard wood, and therefore they be wreathed and twined when they are ſet into the ground: whereupon
B they be called in Latine Sagittæ [i. Shafts:] for the ſame ſions only cut off and not wreathed, are named Trigemmes, as a man would ſay, twigs with three buds or ſpurts. And therefore of one and the ſame Vine braunch, a man may in this ſort make many kinds of ſions or ſets. Howbeit, this is to be noted, that if you ſet any young ſprigs that never bare fruit but leafe only, the Vines comming thereof will be ever barren: and therefore none ought to bee planted but ſuch as are fruitfull. A Vine-ſet or cutting, that hath joints ſtanding thin, but here and there, is thought to be fruitleſſe: but contrariwiſe, if it be ſet thicke with buds, by all likelyhood it will beare plentifully. Some are of opinion, that no ſions ſhould be put into the ground, but thoſe that have floured alreadie. Alſo, That to ſet ſuch cuttings as be called Shafts, which have no part of the old wood, is not ſo profitable; for that in remooving they are in danger to breake whereas they were wry then.

C Now, when you have gotten ſuch ſets as bee meet for planting; let them be a foot long at the leaſt, and carie five or ſixe knots, and at this length they cannot poſſibly have fewer than three buds. Moreover, the beſt way is preſently to ſet them the very ſame day that they bee gathered. But in caſe a man be driven to keepe them long before they bee put into the ground, great heed would be taken, according to the rule beforeſaid, That they be not laid above ground; that they drie not in the Sunne; that they take no wind; nor looſe their freſh vigor by cold. And if it chance that they lie out any while in the drie aire, they would be laid to ſoake in water many daies together, untill they be refreſhed and looke greene againe, before they be ſet into the earth. The plot or quarter within the nource-garden or vineyard, ought to bee well expoſed to the Sunne, of a good largeneſſe, and ſufficiently moulded: alſo, it muſt be well digged for three foot broad with
D a grubbing double toothed forke: then muſt you goe deeper and caſt up the earth with a broad ſpade or ſhovell, after that the ſame hath been broken up with a mattocke or yron toole, carying foure foot in the head, ſo as the ditch may goe two foot directly deepe into the ground. Which done, the ditch is to be cleanſed, and the mould to be ſpread abroad, and not left lying raw in that manner, but to take a kind concoction in the weather. And herein muſt the labourer proceed and be ruled by meaſure, and trie his worke thereby: for if the earth be not well delved, it will be ſoone found out by the uneven balkes or beds. There would be a juſt meaſure taken alſo of the allies that lie betweene the beds. All things being thus prepared, let us come now to the planting of the ſets aforeſaid, which would be couched either in trenches made of purpoſe, or in long furrowes; and then the fineſt and moſt delicate mould that can be found, is to be caſt aloft. But all
E this prevaileth not in a leane and hungrie ground, unleſſe fatter earth bee laid as a pallet underneath. Moreover, this is to be looked unto, that two ſets at the leaſt be moulded and laid within the earth together in one range: alſo they muſt be ſo couched, that they leane with their heads cloſe upon the earth next about them: yea, and with one and the ſame ſtake the ſaid earth ought to be driven cloſe and faſt about them. Over and beſides, throughout the whole plot or quarter of this nource-garden, regard is to be had, that between every two ſets there be a foot & an halfe one way, to wit, in breadth; and halfe a foot another way, to wit, forward in length. Theſe plants being thus ordered, after they have growne to twelve months, they ſhould bee then diſcharged of all their burgeons, even to the nethermoſt knot, unleſſe haply it be ſpared and let alone: for ſome there be that cut it alſo. After theſe, commeth forth the matter of the oilets, and ſhew themF ſelves; and therewith at the third twelvemonth end the quick-ſet root and all is removed to another place in the vineyard.

Beſides all this, there is another pretie and wanton deviſe, more curious ywis than needfull, to plant Vines, and namely, after this manner. Take foure braunches of foure Vines growing together, and bearing ſundrie kinds of grapes; bind them well and ſtrongly together in that part where

where they are moſt ranke and beſt nouriſhed: being thus bound faſt together, let them paſſe G
along either through the concavitie of an Oxe ſhanke and maribone, or elſe an earthen pipe or tunnell made for the nonce. Thus couch them in the ground, and cover them with earth, ſo as two joints or buds be ſeene without. By this meanes they enjoy the benefit of moiſture, and take root together: and although they be cut from their owne ſtocke, yet they put out leaves & branches. After this, the pipe or bone aforeſaid is broken, that the root may have libertie both to ſpread and alſo to gather more ſtrength. And will you ſee the experience of a pretie ſecret? you ſhall have this one plant thus united of foure, to beare diverſe and ſundrie grapes, according to the bodies or ſtockes from whence they came. Yet is there one fine caſt more to plant a Vine, found out but of late, and this is the manner thereof: Take a Vine-ſet or cutting, ſlit it along through the middeſt, and ſcrape out the marrow or pith very cleane; then ſet them together H
againe wood to wood, as they were before, and bind them faſt: but take heed in any caſe that the buds or oilets without-forth be not hurt, nor raſed at all. This done, put the ſame cutting into the ground, enterre it I ſay well within earth & dung tempered together. When it begins to ſpread young braunches, cut them off, and oftentimes remember to dig about it, & lay the earth light: and certes, *Columella* holdeth it for certain, and aſſureth us upon his word, That the grapes comming of ſuch a Vine will have no ſtones or kernils at all within them. A ſtrange thing and paſſing wonderfull, that the very ſet it ſelfe ſhould live; and that which more is, grow and beare, notwithſtanding the pith or marrow is taken quite away.

Furthermore, ſince we are entred thus farre into this diſcourſe and argument, I cannot paſſe by, but I muſt needs ſpeake of ſuch twigs and braunches of trees as will knit and grow together I
even to a tree. For, certaine it is, that if you take five or ſixe of the ſmalleſt ſprigs of Boxe, bind them together, and ſo pricke them into the ground, they will proove and grow to one entire tree. Howbeit, in old time men obſerved, that theſe twigs ſhould be broken off from a Box tree, which never had been cut or disbranched, for otherwiſe it was thought verily they would never live: but afterwards this was checked by experience, and the contrarie knowne. Thus much as touching the order of Vine-plants, and their nource-garden for ſtore.

It remaineth now to ſpeake of the manner of Vineyards and Vines themſelves. Where in the firſt place, there offer unto us five ſorts thereof. For ſome traine and run along upon the ground ſpreading every way with their braunches: others grow upright and beare up themſelves without any ſtaies. Some reſt upon props, without any traile or frame at all: others be borne up with K
forkes and one ſingle raile lying over in a long raunge: and laſt of all, there bee Vines that run upon trailes and frames laid over croſſe-wiſe with foure courſes of railes, in manner of a croſſe dormant. The ſame manner of husbandrie that ſerveth thoſe Vines which beare upon props without any other frame at all, will agree well ynough to that which ſtandeth of it ſelfe without any ſtaies. For ſurely it groweth ſo, for default onely and want of perches and props. As for the Vine that is led upon a ſingle raunge as it were in one direct line, which they call Canterius, it is thought better than the other, for plentie of liquor: for beſides that it ſhaddoweth not it ſelfe, it hath the furtherance & help of the Sun-ſhine continually to ripen the grapes: it hath the benefite alſo of the wind blowing through it, by which meanes the dew will not long ſtand upon it. Moreover, it lieth more handſome to the hand for the leaves to bee plucked away, and for the L
clods to be broken under it: & in one word, is readieſt for all kind of good husbandrie to be done about it. But above all other commodities it hath this, that it is not long in the flower, but bloumeth moſt kindly. As for the frame aforeſaid that is raunged in one line a length, it is made of perches or poles, reeds and canes, cords and ropes, or elſe lines of haire, as in Spaine and about Brindis. The other kind of frame with railes and ſpars overthwart, beareth a Vine more free for plentie of wine than the reſt, and called this is *Compluviata vitis*, becauſe it reſembleth the hollow courſe of gutter tiles, that in houſes receive all raine water and caſt it off. For as the croſſe dormant in building ſhutteth off the raine by foure gutters, even ſo is this Vine led and caried foure waies, upon as may trailes. Of this Vine and the manner of planting it, we will only ſpeake, for that the ſame ordering will ſerve well ynough in every kind beſides: marie there be farre more M
waies to plant this than the reſt, but theſe three eſpecially. The firſt and the ſureſt is, to ſet the Vine in a plot well and throughly delved: the next to it, is in the furrow: the laſt of all, in a trench or ditch. As for digging a plot and planting therein, ynough hath been written alreadie.

CHAP.

A

Chap. xxii.

Of furrowes and trenches wherein vines are planted: also of pruning Vines.

IT sufficeth that the furrow or trench wherein a vine is to be planted, be a spade or shovels bit breadth: but ditches would be three foot long every way. Be it furrow, trench, or ditch, wherin a vine is to be replanted, it ought to bee three foot deepe; and therefore no plant thereof should be remooved so little, but that it might over and besides stand above ground, and shew two buds at the least in sight. Needfull it is moreover, that the earth be well loosened and made more tender and gentle, by small furrows raunged and trenched in the bottome of the ditch; yea
B and to be tempered sufficiently with dung. Now if the vineyard lie pendant upon the hanging of the hill, it requireth deeper ditches, and those raised up well with earth and bedded, from the brims and edges on the lower ground. As for such which shall bee made longer, and able to receive two vine-plants growing contrarie one to the other, they shall bee called in Latine, Alvei. Above all, the root of the vine ought to stand just in the mids of the hole or ditch; but the head and wood thereof which resteth upon the sound and firme ground, as neare as possible is, must beare directly into the point of the Æquinoctiall Sun-rising: and withall, the first props that it leaneth upon, would be of Reeds and Canes.

As touching the bounding and limitation of a vineyard, the * principall way which runneth straight East and West, ought to carie eighteene foot in breadth, to the end that two carts may
C passe easily one by another, when they meet; the other crosse allies, dividing every acre just in the mids, must be ten foot broad: but if the plot or modell of the vineyard will beare it, these * allies also which lie North and South, would be as large full as the aforesaid principall high way. Moreover, this would bee alwaies considered, That vines be planted by the fives; that is to say, that at every fifth perch or pole that shoreth them up, there be a path dividing every raunge and course, and one bed or quarter from another. If the ground bee stiffe and hard, it must of necessitie be twice digged over, and therein quick-sets onely that have taken root, must be replanted: marie in case it be a loose mould, light, and gentle, you may set very cuttings and sions from the stocke, either in furrow or in trench, chuse you whether. But say it be a high ground and upon the hill, better it is to cast it into furrowes overthwart, than to dig it; that by this means the pearches or
D props may keepe up the ground better, which by occasion of raine water would settle downeward. When the weather is disposed to raine, or the ground by nature drie, it is good planting vine-sets or sions at the fall of the leafe, unlesse the constitution of the tract and qualitie of a countrey require the contrarie: for a drie and hot soile would be planted in Autumne or the fall of the leafe, whereas a moist and cold coast may tarrie, even untill the end of Spring. Let the soile be drie and hard, bootlesse it will be to plant, yea though it were a very quicke-set, root and all. Neither will it doe well to venter the setting of imps cut from the tree, in a drie place, unlesse it be immediatly upon a good ground showre: but in low grounds, where a man may have water at will, there is no daunger at all to set vine braunches, even with leaves on the head; for they will take well enough at any time before the midsommer sunstead, as we may see by experience
E in Spaine. When you will plant a vine, chuse a faire day; and if possibly you can, let it be when there is no wind stirring abroad; for such a calme season is best: and yet many are of opinion, that Southern winds be good, and they wish for them; which is cleane contrarie unto *Cato* his mind, who expressely excepteth and rejecteth them. If the ground be of a middle temperature, there ought to bee a space of five foot distance betweene every vine: and in case it be a rich and fertile soile, there would be foure foot at least from one to another; but in a leane hungrie peece of light ground, there should be eight foot at the most: for whereas the Vmbrians and Marsians leave twentie foot void betweene every raunge of vines, they do it for to plough and sow in the place, and therein they have quarters, beds, and ridges, called Porculeta. If the place where you plant a vineyard be subject to thicke and darke mists, or to a rainie disposition of the wea-
F ther, vines ought to be set the thinner: but in a drie quarter, it is meet they should bee planted thicke. Moreover, the wit and industrie of man hath found out meanes to save charges, and in setting a nource-garden with vine-sions to goe a nearer way, with small expence and no losse of ground: for in replanting a vineyard with quicke-sets upon a levell plot, onely digged and laid even, they have with one and the same labour (as it were by the way) replenished the ground be-

* *Decumanus Linea.*

* *Cardines.*

tweene every such rooted plants, with vine-cuttings for store, so as the quicksets may grow in his G
owne place awpointed, and the sion or cutting (which another day is to be transplanted) in the mean time take root between every course and raunge of the said vine quick-sets, before they be readie to take up much ground. Thus within the compasse of one acre, by just proportion a man may have about sixteene thousand quicke-sets. This is the difference onely, that such beare not fruit so soone by two yeare: so much later are they that be set of sions, than those that were transplanted and remaine still on foot. When a quick-set of a vine is planted in a vineyard, and hath growne one yeare, it is usually cut downe close to the earth, so as but one eye or button be left above ground, and one shore or stake must be stickt close to it for to rest upon, and dung laid well about the root. In like manner ought it to be cut the second yeare. By this meanes it gathereth strength inwardly, and maintaineth the same in such wise, as it may be sufficient another day to H
beare and sustaine the burden both of braunch and bunch, when it shall be charged with them: for otherwise, if it be let alone and suffered to make hast for to beare, it would proove to be slender, vinewed, leane, and poore: for surely this is the nature of a vine, That shee groweth most willingly: in such sort, that unlesse she be kept under, chastised, and bridled in this manner, (her inordinate appetite is such) she will run her selfe out of heart, and go all to braunch and leafe.

As touching props and shores to support vines, the best (as wee have said) are those of the Oke or Olive tree; for default whereof, ye may take good stakes and forkes of Iuniper, Cypresse, Laburnium, and the Elder. As for those perches that be of other kinds, they ought to be cut and renewed every yeare. Howbeit, to lay over a frame for vines to runne upon; the best poles are of Reeds and Canes, for they will continue good five yeares, being bound many of them togither. I
When the shorter braunches of a vine are twisted one within another in manner of cording or ropes, and strengthned with the wood of vine-cuttings among, thereof arch-worke is made, which in Latine they call Funeta. Now by the time that a vine hath growne three yeares in the vineyard, it putteth forth apace strong braunches, which in time may make vines themselves; these mount quickly up to the frame: and then, some good husbands there be, who put out their eyes, that is to say, with a cutting-hooke (turning the edge upward) fetch off the eies budding out beneath: thus by pruning, although they seeme to doe hurt and wrong unto them, yet they draw them to shoot out the longer by the meanes: for in good faith, the more profitable way it is, thus to use and acquaint it with bearing braunches lustily; and far better and easier is it besides to cut away these young imps as the vine lieth fast joyned to the frame, untill such time as a man K
thinke it be strong enough of the wood. Others there are, who in no case would have a vine touched or medled withall, the next yeare after that it is remooved into the vineyard; nor yet to feele the edge of the cutting-hooke, untill it have five years over the head; mary then they agree it should be pruned & guelded of all the wood it hath, save only three burgeons. You shall have some againe that will indeed cut them the very next yeare after they be replanted, but so as they may win every yeare three or foure joynts; and when they be foure yeares old, and not before, they give them libertie to climbe upon the frame. But this (I assure you) is the next way to make the vine fructifie slowly and late: besides, it causeth it to seeme scortched and full of knots, yea and to grow like a dwarfe or wreckling. The best simply, is to suffer the stocke or mother to be strong first, and afterwards let the braunches and young imps hardly, bee as forward and audacious as they will. Neither is it safe trusting that vine which is full of cicatrises or skarres (a thing L
that proceedeth of great errour and an unskilfull hand;) for surely all such braunches grow of hurts or wounds, and spring not one jot from the mother-stocke indeed: for all the while that she gathereth strength, her whole vertue remaineth within her; but when she is suffered to grow and fructifie, shee goeth throughly to worke, and employeth her forces full and whole to bring forth that, which yeerely she conceived: for Nature produceth nothing by halfes nor by peecemeale, but is delivered of all at once. Well then, after that a vine is once full grown and strong enough, let it presently run upon pearches, or bee led in a traile upon a frame; but in case it be yet with the weakest, let it be cut againe, and take up her lodging hardly beneath under the very frame: for in this point the question is not, what Age, but what Strength it hath? for that is it M
which must rule all. And verily great folly and rashnesse it were, to put a vine to it, and let her have the will to grow ranke, before she be as big full as a mans thumbe. The next yeare after that it is gotten to the frame, there would be saved and let to grow one or two braunches, according to the strength and abilitie of the mother: and let the same the yeare following also be preserved,

nourished,

A nouriſhed, and permitted to grow on end, unleſſe her feeblenes be againſt it: But when the third yeare is come, and not afore, be bold to give her the head with two braunches more; and never let her goe but with foure at the moſt. In one word, hold a vine downe as much as you can, never cocker and cheriſh her, but rather repreſſe her fruitfulneſſe; for of this nature is the vine, Rather than her life, ſhee would be alwaies bearing; neither taketh ſhee ſuch pleaſure to live long, as to beare much: and therefore the more you take away of her ranke and ſuperfluous wood, the better will ſhe employ her radicall ſap and moiſture to fructifie and yeeld good ſtore of grapes: yet by her good will ſhe would be ever putting forth braunches for new plants, rather than buſie in bearing fruit; for well woteth ſhe, that fruit will fall and is but tranſitorie. Thus to her owne undoing and overthrow, while ſhee thinketh to ſpread and gaine more ground, ſhee ſpends her
B ſtrength, her ſelfe and all. Howbeit in this caſe, the nature of the ſoile will guide a man and adviſe him well: In a leane and hungrie ground, although the vine be ſtrong enough, you ought to keepe it downe with cutting, that it may make abode under the head of the traile and frame above; and howſoever ſhe may have ſome hope that her young braunches ſhall get up to the top (as being at the verie point to mount above it, and ſo neare as that they reach thereunto) yet let her ſtay there and proceed no farther: ſuffer her not (I ſay) to lay her head thereupon and couch upon the traile, nor wantonly to ſpread and run on at her eaſe. In this manner (I ſay) hold her head in with the bridle, that ſhe may in the end chuſe rather to grow big in bodie and ſtrong withall, than to ſhoot forth braunches about her every way farre and neare. The ſame braunch now that is kept ſhort of the frame, ought to have two or three buds to burgen at, and to bring
C forth more wood in time: and then let it be drawne and trained cloſe unto the traile and tied faſt thereto, that it may ſeeme to beare upon it and be ſupported thereby, and not to hang looſely thereupon. Being thus bound to the frame, it muſt likewiſe be tied anon, three buds or joynts off: for by this means alſo the wood is reclaimed and repreſſed from running out in length beyond all meaſure, and the burgeons in the way between will come thicker & ſhoot up on heigth, to furniſh the husbandman with ſtore of new ſets and ſions for the next yeare. The very top end in no wiſe muſt be tied. Certes this propertie and qualitie hath the vine, That what part ſoever of it is dejected and driven downward, or els bound and tied faſt, the ſame ordinarily beareth fruit, and principally in that very place where it is bowed and bent in manner of an arch. As for the other parts which be backeward and nearer to the old maine ſtocke, they ſend out ſtore of new
D braunches indeed, full of wood, but otherwiſe fruitleſſe that yeare; by reaſon (I ſuppoſe verily) of the ſpirit or vegetative life, and that marow or pith whereof wee ſpake before, which findeth many ſtops and lets in the way. Howbeit theſe new ſhoots thus putting forth, will yeeld fruit the next yeare. Thus there offer unto us two kinds of vine braunches: for that which ſpringeth out of the hard and old wood, and promiſeth for that yeare following nothing but ſprigs and twigs onely, is called Pampinarium: whereas that which commeth more forward beyond the cut or cicatrice, and beareth ſhew of grapes, is named Fructuarium. As for another, ſpringing from a yeare-old braunch, it is left alwaies for a breeder and kept ſhort under the frame; as alſo that which they tearme Cuſtos, [i. the Keeper, or Watch:] A young braunch this is, and no longer than it may well carie three buds; which the next yeare is like to beare wood and repaire all, in
E caſe the old vine ſtocke ſhould miſcarrie and ſpend it ſelfe by carying too great a burden. Alſo another burgen there is cloſe unto him, bearing out like a knob, of the bigneſſe of a wert, (called he is Furunculus) who muſt ſerve the turne and make ſupply, if peradventure the foreſaid Watch or Keeper faile.

Moreover, a vine if it bee ſuffered to beare before the ſeventh yeare after it was firſt ſet of a cutting or ſion, decaieth ſenſibly and ſoone dieth: neither is it thought good to let the old wood run on ſtill in length upon the frame, as farre as to the fourth forke that underproppeth it, (ſuch old crooked braunches ſome call Dracones, others Iuniculos) to make thereof huge and great trailes of vines tearmed Maſculeta. But worſt of all it is, to ſeeme for to propagate or draw in a long traile within the ground vines in a vineyard, when they be growne hard with age. When
F the vine is five yeares old, a man may boldly wind and twine the very braunches, ſo as out of everie one there be a twig let to grow at libertie: thus he may proceed forward to the next, cutting away the wood as hee goeth that bare before. The ſurer way evermore is ſuppoſed to leave the Watch or Keeper behind; mary hee muſt be next unto the vine maine bodie, and neareſt the root, and no longer than is before ſet downe. Now in caſe the braunches proove over ranke,

they must be writhed and twisted in manner aforesaid, so as the vine stock may put forth no more than foure boughs at the most, or twaine if so be it rest but upon one chanter or raunge of perches. If you would order a vine so as it may stand alone without any props, at the beginning it would desire and have some supporter or other (it makes no matter what) to rest upon, untill it have learned to stand of it selfe, & rise upright: afterwards, it is to be used in manner of all other vines, when this training is past. This regard would be had in pruning and cutting the twiggs of these vines called Pollices, That a man well guide and ballance his hand, and goe even withall in every part indifferently, for feare least one side be charged with fruit or braunch more than the other: where by the way, he must also remember to keepe downe the head, and not suffer it in any wise to runne up in height: for if this kind of vine be above three foot high, it will hang the head downward. As for others, they may wel grow to five foot and upward, so that they passe not in any case the full height of a man. To come now unto the other vines that creepe along and spread over the ground; they be environed all the way as they run, with pretie short hollow cages as it were, to rest and repose their braunches in. They have need moreover of certaine trenches or ditches round about to run in, to the end that as the said braunches wander too and fro, they should not encounter one another & strive togither. And verily in most parts of the world, they use to gather their vintage of vines thus growing low by the ground: as we may see the maner is in Affricke, Ægypt, Syria, throughout all Asia, and in many places of Europe. For the good usage and dressing of these vines, a speciall care would be had to keepe them downe close to the earth; and to fortifie the root, so long and in the same manner, as hath been shewed before in those, that are shored or beare upon frames; with this charge and regard besides, to leave alwaies the short twigs only called Pollices, with three buds apeece, in case the ground be fruitfull; or * five, if it be light and leane. And in one word, better it is without all question, that they be left many, than long. As for those points which wee have delivered heretofore, as touching the nature of the soile, they will be more effectually seene to proove either the goodnesse or the contrarie, in the grapes of this vine, by how much nearer they lie to the ground, than others. Wherein, consideration is to be had of the sundrie sorts of vines, namely, that they be severed apart; and nothing is better, than to sort every one with the tract or region that agreeth best with it, and therein to plant them accordingly: for these mixtures of divers kinds are never good, but alwaies discordant: naught in old wines that come to our table, much worse then you may bee sure, in those that be new and not yet tunned up. But if a man will intermingle plants of sundrie vines togither, yet in any case those would be joyned togither (and none else) which ripen their fruit at one and the same time.

* *Quinis*, rather *Binis*, i. twaine.

For frames and trailes wherein vines are to run, the better and more battle that the ground of the vineyard is, the plainer & evener that it lyeth, the higher they would be from the ground; likewise if the place be subject to dewes, fogs, and mists, and nothing exposed to the winds: contrariwise, if the ground be leane and drie, hote, and open to the winds, they must be the lower and nearer to the earth. As concerning the rafters, that lie over and reach from prop to prop, they ought to be tied and fastened thereto with as streight and sure a knot as is possible; whereas the vine would be bound unto them, but slacke. Of the sundrie sorts of vines, as also which were to be planted in this or that soile, and what coasts and climats each one of them loveth, we have shewed sufficiently in the particular treatise of their nature, and of the wines that come of them.

Touching all other points of husbandrie that remaine behind, much doubt and divers questions are made: for many there be that feare not all Summer long to bee digging in the vineyard about vine roots, after every little raine. Others againe forbid to meddle & be lustie therin, in the budding time: for it cannot be avoided, but that the young oilets will either be smitten off cleane, or else galled and bruised one time or other, with their gate that go in and out between: which is the cause, that they would have all kind of cattell to bee kept out that they come not neare, and especially such as beare wooll on their backs; for sheepe of all others soonest rub off the buds as they passe by, with their shag-coats. Moreover, they are of opinion, that all manner of raking and harrowing, is an enemie to vines when they be in their flowre, and putting foorth young grapes: and sufficient it is (say they) if a vineyard be delved thrice in one yeere; to wit, first from the Spring Æquinox, to the apparition of the Brood-hen starre; secondly, at the rising of the great Dog-starre; and thirdly, when the grape beginneth to change colour and turn blacke. Others set out these times after this manner: If the vineyard be old, they would have it once digged

A ged betweene vintage and mid-winter; howſoever ſome be of this mind, That it ſufficeth them to bare the roots onely of the vines and lay dung thereto. The ſecond delving they would have to be from the Ides of Aprill, and ſix daies before the Ides of May, that is, before they begin to conceive and bud: and thirdly, before they fall to bloſſome; alſo when they have done flouring; and alſo at the time when the grapes alter their hew. But the more skilfull and expert husbands affirme conſtantly, That if the ground be overmuch laboured, and digged too often, the grapes will be ſo tender skinned, that they will burſt againe. Moreover, theſe rules following are to bee obſerved, That when any vines do require ſuch delving and digging, the labourers ought to go to worke betimes before the heat of the day: marie if the vineyard ſtand upon a myrie clay, it is not good then either to eare or dig it, but rather to wait for the hot ſeaſon; for the duſt that ri-
B ſeth by digging, is very good (by their ſaying) both to preſerve the vine and grapes from the partching ſunne, and alſo to defend them againſt the dropping miſts.

As for disburgening of vines and cleanſing them of their ſuperfluous leaves, all men accord, that it ſhould be done once in the Spring, to wit, after the Ides of May, for the ſpace of eleven daies following; and in any hand before they begin to put forth flower. And how much thereof muſt be thus diſſoiled for the firſt time? even all that is under the traile or frame, and no more. As for the ſecond, men be not all of one mind; Some would have the leaves to be disbraunched when the vine hath done flowring: others expect, untill the grapes begin to be ripe. But as touching theſe points, the rules that *Cato* giveth, will reſolve us: for wee are now alſo to ſhew the manner of cutting and pruning vines. Many men begin this worke immediatly after vintage,
C when the weather is warme and temperate: but in deed (by courſe of Nature) this ſhould never be done before the riſing of the Ægle ſtarre (as we will more at large declare in the next booke, where we are to treat of the riſing and fall of the fixed ſtars and of their influences;) or rather in truth, when the Weſterne wind Favonius beginneth to blow, foraſmuch as there might be daunger in going over ſoone to worke, conſidering that haſt commonly maketh waſt. For this is certaine, that if there come an after-winter, and chaunce to bite the vines newly medicined (as it were) or rather ſore with this pruning, if it happen (I ſay) that when every man makes reckoning that winter is gone, it come upon them againe and whiske with his taile, their buds pinched with cold will looſe their vigor, their wounds will cleave and make rifts, in ſuch ſort, that when the humiditie is diſtilled and dropped forth, the oilets will be nipt and burnt away with the bitter-
D neſſe of the unſeaſonable weather: for who knoweth not, that in froſt it is tickliſh medling with vines, and that they be in daunger ſoone to breake and knap aſunder? To ſay therefore a truth, by order of Nature there would not be ſuch haſt made. But here is the matter, they that have a large domaine and much lands to looke unto, they that muſt go through a great deale of worke, cannot will nor chuſe but begin betimes, and make this computation and reckoning aforeſaid. And in one word, the ſooner that vines be pruned (if the time will ſerve commodiouſly) the more they run into wood and leaves; and contrariwiſe, the later you go to worke, the more plentie of grapes they will yeeld: and therfore it is meet and expedient to prune vines that bee poore and feeble, very timely; but ſuch as bee ſtrong and hardie, laſt of all.

As for the maner and faſhion of the cut, it ought alwaies to be aſlaunt, like a goats foot, that
E no drops of raine may ſettle and reſt thereupon, but that every ſhowre may ſoon ſhoot off: alſo that it turne downward to the ground, that it be even and ſmooth made with a keen and ſharpe edged bill or cutting hooke. Furthermore, this heed would be taken, that the cut be juſt between two buds, for feare of wounding any of the oylets neere unto that part which is cut off: and commonly this is ſuppoſed to be black and duskiſh, and ſo long as it is ſo ſeene, it ought to be cut and cut againe, untill you come to that which is ſound and cleere indeed: for never ſhall yee have out of a faulty and corrupt wood, any thing come forth that will be worth ought. If the vine be ſo poore and leane that it affordeth no branches meet and ſufficient to beare, cut it down to the very ground, for beſt it is then to fetch new from the root, and to ſee whether they will be more lviely. Over and beſide in disburgening and defoiling a vine, you muſt beware how
F you pluck off thoſe burgeons that are like to beare the grape, or to go with it; for that were the next way to ſupplant (as it were) the grapes, yea and kill the vine, unleſſe it were a new and young plant. Will you then know which are unprofitable and may be ſpared? even all thoſe are deemed ſuperfluous, which come not directly from the knot or neere the oilet, but grow out of the ſide: and no marvaile, ſince that the very branches of grapes which hang in this maner out of

the hard wood, are ſo ſtiffe and tough alſo that unneth a man may plucke them off with his fingers, but had need of a knife or hooke to cut them away. G

As for the pitching of props into the ground, ſome are of opinion, that the beſt way is to ſet them between two vines: and in deed that were the eaſier way to come about the vines, for to lay their roots bare when time ſerveth. Alſo, better is it farre ſo to doe, in a vineyard where the vines run upon one ſingle traile, in caſe the ſaid traile be ſtrong enough, and the vineyard not ſubject to the daunger of winds: but where a vine runneth foure waies, it muſt be relieved with prop and ſtaies as neare as may be, to ſupport the burden; yet ſo, as they bee no hinderance when as men ſhould come about the foot to lay the root bare: and therefore they would be a cubit off, and no more. Moreover, this is a generall rule, that a vine be cleanſed about the root beneath, before that it be pruned above. H

Cato treating generally of all matters concerning vines, writeth thus by way of rule and precept: Let your vine (quoth he) be as high as poſſibly you can: faſten it to the frame decently, but take heed you bind it not too hard. Dreſſe and order it after this maner: After you have cut away the tips and tops thereof, dig round about the rootes, and begin then to eare up and plow the vineyard: draw furrows and ridges too and fro throughout. Whiles vines be yong and tender, couch their branches within the ground for propagation, with all ſpeed: as for old vines, gueld them as little as you can, & keep them with a good head; rather if need require, lay them along on the ground, and two yeeres after cut them hard to the root. If it be a young vine, attend untill it be of ſtrength ſufficient; then will it be time and not afore to cut and prune it. If haply the vineyard be bare and naked of vines, and that they grow but thin here and there, make furrowes I and trenches between, and therein plant new quickſets: but rid the weeds well from about thoſe trenches, for overſhadowing them: be ever alſo digging and delving. Then, if it be an old vineyard, ſow drage and pulſe for provender: if it be a leane and light ground, ſow nothing that beareth graine or corne. Be ſure that ye lay about the heads of the ſaid quickſets, dung, chaffe, refuſe of grapes preſſed, & ſuch like mullocke. When the vine beginneth to put out leaves & looke green, fall to disburgeoning. So long as the vines be young and tender, tie them ſurely in many places, for feare leſt the wood or ſtalke therof doe breake aſunder. But when a vine hath gotten head to perch aloft upon a ſingle traile, gently bind the tender burgeons & branches thereof, extend and ſtretch them out, & lay them ſtreight. Now when they ſtand once upright & are able to beare themſelves, marke when the grapes begin to change colour, bind them well & ſure below. K

As for graffing of vines, there are two ſeaſons of the year meet therfore: the one in the ſpring, the other when the vine doth flower; and this is held for the beſt. If you purpoſe to tranſlate an old ſtocke of a vine into another place, and there to replant it, cut off the firſt thicke arme only; leaving behind two buds and no more. In taking of it up, bee carefull that you doe it with ſuch dexteritie, as that you raſe not nor wound the root. This done, looke how it grew before, ſo ſet it now, either in trench or furrow: couch it well and cloſe, and cover it throughly with good mould. After the ſame manner as is beforeſaid, under-ſet and prop it up, bind it, turne and wind it; but above all be every while digging about it. As touching the drage called Ocynium, which *Cato* willeth to be ſowed in a vineyard, it is a kind of forage or provender for horſes, which the Latins in old time named Pabulum: it commeth up very ſpeedily and groweth faſt, and beſides can well L away with ſhadowie places.

Chap. xxiii.

Of trees raunged in rewes, for to ſupport Vines.

IT remaineth now in this diſcourſe and treatiſe of Vines, to write of the manner of trees planted of purpoſe for to ſerue their turne. And here I cannot chuſe but call to minde, firſt, how this point of husbandry hath been judged naught, and altogether condemned by the two *Sarſennæ*, both father and ſonne; but contrariwiſe held for good, and highly commended by *Scroſa*: whereas, all three were reputed the moſt ancient writers, and skilfulleſt in this kind, next M to *Cato*. And yet *Scroſa*, as great a patron as he is thereof, alloweth not this deviſe in any climate els, but only in Italy. Howbeit, gone this hath for currant many yeeres paſt, and time out of mind, That the beſt and moſt dainty wines came of thoſe grapes only which grew upon ſuch Hautins or trees beforeſaid. Yea, and it was thought generally that the higher a vine climbed upon

A on theſe trees, the better grapes it bare, and yeelded more commendable wine: and againe, the lower that thoſe trees were, the greater plentie followed both of the one and the other. By which a man may ſee how materiall it is to raiſe Vines on high, and have grapes growing in the top of trees. In which regard, choiſe alſo is to bee made of trees for this purpoſe. And here firſt and formoſt is preſented unto us the Elme: and yet I muſt except that kind of it which is called Atinia, by reaſon that it is overmuch charged with boughes and leaves, and therewith too full of ſhade. Next unto it may bee raunged the blacke Poplar, even for the ſame cauſe, becauſe it is not leaved nor branched ſo thicke. Many men there be that refuſe not the Aſh, the Fig tree, yea and the Olive, ſo that it ſtand not over thicke with boughs, and make too much ſhade. As for the ſetting, planting, and ordering of theſe trees in generall, wee have ſufficiently and to the full treated
B heretofore. But now for this ſpeciall and peculiar uſe that they be put unto, this would be conſidered, That Vines which are to be wedded to theſe trees, muſt in no wiſe feele the edge of the cutting hooke, before they bee three yeares old full. After which time, this regard ought to bee had, that every ſecond branch or arme thereof is to be ſpared: and likewiſe each other yeare and no oftener they are in this wiſe to bee pruned: and by that they are ſix yeares old, it is good time to joine them in mariage unto their husbands aforeſaid.

In Piemont, Lumbardie, and thoſe parts of Italie beyond the river Po, they uſe for this purpoſe to plant their grounds with theſe trees over and beſides thoſe beforenamed, to wit, the Cornell, the Opiet or Wich-hazell, the Teil or Linden, the wild Aſh Ornus, the Carpin Carme or Horn-beame, and the Oke. About Venice and all that tract, the Willowes ſerve the turne & none
C elſe, by reaſon that the whole ſoken ſtandeth ſo much upon water.

As touching the Elme, named in the firſt place, it muſt be kept plaine and bare, and the great water-boughs underneath ſhred untill you come to the middeſt of the tree, or thereabout; and then the reſt ought to bee arraunged and digeſted into good order, whereupon the Vine may climbe as it were upon ſtaires or ladder rounds: and lightly none of theſe trees upward be above twentie foot high. Now in caſe it be a high ground upon an hill, and drie, they are permitted to braunch and ſhut out their armes, within eight foot of the ground. But in plaines and low moiſt grounds, they begin not to forke before they beare twelve foot. Howbeit, let the place be what it will, the flat of the tree from whence the boughs begin to devide, ought to regard the South ſun. And the ſaid branches immediatly from their project muſt riſe ſomewhat upright in manner of
D fingers, ſtanding forth from the palm of ones hand: among which, the ſmall ſprigs muſt eftſoons be barbed (as it were) and ſhaven cleane off, for feare they doe not overſhade the Vine branches.

As touching the ſpace or diſtance betweene one tree and another, the ordinarie proportion is, that afront and behind, in caſe the ground bee erable, it beare fortie foot: but a flanke, or on the ſide, twentie. Marie, if it be not well tilled and husbanded, ſo much will ſerve every way, to wit, twentie foot and no more. Commonly every one of theſe trees maintaineth tenne Vines at the foot thereof: and a bad husband he is who hath fewer reared about it than three. But by the way, it is no good husbandrie to ſuffer a tree thus to bee coupled (as it were) in marriage to ſo many Vines, before that it bee of ſufficient ſtrength to entertaine them: for there is nothing ſo hurtfull, by reaſon that the Vines will choke and kill them; ſo quicke they bee of their growth, and ſo
E readie to overcharge them.

As for planting of Vine-ſets to the root of trees, needfull it is to make therefore a ditch three foot deep: and they ought to be diſtant one from the other a full foot, and ſo much likewiſe from the tree. This done, there is no queſtion there of the ſmall twigs or ſhoots what to do with them? neither is there any charge or expence required for digging and delving: for this is the manner of it, and this peculiar gift have theſe tree-rowes, That in the ſame ground where they grow, the ſowing of corne is nothing hurtfull, nay, it is profitable and good for the Vines. Moreover, this commoditie and eaſement commeth of their height, that they bee able to ſave themſelves: neither is there any ſuch need, as in other Vineyards, to be at the coaſt of walls, of mounds, pales, or hedges, ne yet of deepe ditches or other fences, to keepe off the violence or injuries of beaſts. Of
F all other toiles before rehearſed, there is no more required but to looke unto onely the getting of quick-ſets, or couching ſions: all the matter I ſay lieth herein, and there is no more to do.

But of couching ſions and that kind of propagation, there bee two deviſes. Firſt within paniers or baskets upon the boughs of the tree, and that is the beſt way, becauſe it is ſafeſt from the daunger of cattell. The ſecond is, to bend the Vine, or a branch thereof, cloſe to the foot of her

owne

owne tree, or elſe about the next unto it: if it ſtand ſingle and have no Vine joined unto it. As much of this branch or Vine thus couched as is above the ground, muſt be kept with ſcraping; that is to ſay, the buds ought ever and anone to be knapt off, that it ſpring not forth. Within the earth there ſhould bee no fewer than foure joints or budding knots buried and enterred for to take root; in the head without, two onely are left for to grow. [Where, note by the way, that the Vine which groweth to the foot of a tree, muſt be trenched in a ditch foure foot long in all, three in breadth, two and an halfe in deapth.] Now, when the ſion thus couched, hath lien one yeare, the order is to cut it toward the ſtock to the very pith or marrow, that ſo by little and little it may be inured to fortifie it ſelfe upon the owne roots, and not to hang and cling alwaies to the mother: as for the other end or head thereof, it would bee cut off alſo ſo neare the ground, as that there be but two onely buds left. By the third yeare it muſt bee quite cut in two, (where before it was but guelded to the pith) and that which remaineth of it, laid deeper into the ground, for feare it ſhould ſprout foorth and beare leaves toward that ſide where it was cut in twaine. This done, no ſooner is Vintage paſt, but this new quicke-ſet, root and all, muſt bee taken up and replanted. G H

Of late daies deviſed was the manner of couching or planting by a trees ſide a Vine Dragon (for ſo we uſe to call the old braunch of a Vine paſt all ſervice, which hath done bearing many a yeare, and is now growne to be hard.) And verily, they uſe to make choiſe of the biggeſt they can find, which when they have cut from the ſtocke, they ſcrape and pill the barke three foure parts in length, ſo farre forth as it is to lie within the ground [whereupon they name it in Latine Raſilis:] when it is thus couched low within a furrow, the reſt that is above the earth they reare up againſt the tree. And it is thought, that there is not ſo good nor ſo readie a mean to make a Vine grow and beare than this. If it fall out ſo, that either the Vine be ſmall and weake, or the ground it ſelfe but leane and hungrie, it is an uſuall and ordinarie practiſe to cut and prune it as neare the ground as poſſibly may bee, untill ſuch time as it bee well ſtrengthened in the root: as alſo, great regard is had, that it bee not planted when the deaw ſtandeth upon it, ne yet when the wind ſits full in the North. The old Vine ſtocke it ſelfe ought to look into the Northeaſt, provided alwaies that the young braunches turne Southward. Moreover, new and tender Vines would not be proined and cut in haſt: but better it is to expect and tarie untill ſuch time as they be ſtrong ynough and able to beare the cutting bill: meane while, to gather the young braunches together round in manner of an houpe or circle. [Where note by the way, That Vines which are erected upon trees, for the moſt part beare later by one yeare than thoſe in Vineyards that bee perched or run on frames.] Some would not have them to be cut at all, before they have raught up to the top of the tree. At the firſt time when you come with the pruning hooke, the head muſt be cut off at ſix foot from the ground, leaving underneath one little top twig, which muſt bee forced to beare by bending it downeward in the head: and in the ſame, when it is thus pruned, there muſt bee left behind three buds and no more. The braunches which burgen out from thence, ought the next yeare to bee brought up to the loweſt armes of the tree, and there ſeated: and ſo from yeare to yeare, let them climbe up higher to the upper boughs, leaving alwaies upon every loft or ſcaffold as it were where they reſted, one braunch of the old hard wood, and another young imp or twig, for to grow up and climbe as high as it will. Furthermore, as often as a Vine is pruined afterwards, thoſe braunches or boughes thereof in any wiſe muſt be cut away which were bearers the yeare before: and in ſtead of them, the new after they be firſt cleanſed from all the hairie & curled tendrils on every ſide ſhred off. The ordinarie manner of pruning and dreſſing of vines here about Rome, is to let the tender braunches and ſprigs enterlace the boughes, inſomuch, as the whole tree is overſpread and clad therewith, like as the very ſame tendrils be alſo covered all over with grapes. But the French faſhion is to draw them in a traile along from bough to bough: whereas in Lumbardie and along the cauſey Æmylia [from Plaiſance to Rimino] they uſe to traine them upon forkes and poles: for albeit the Atinian Elmes bee planted round about, yet the vine commeth not neare their greene boughs. Some there be, who for want of skill and good knowledge about vines, hang them by a ſtrong bond under the boughs: but this is to wrong, yea to ſtifle and ſtrangle them outright: whereas indeed a vine, as it ought to be kept downe with oiſier twigs, ſo it muſt not be tied over ſtreight. For which cauſe, even they alſo who otherwiſe have ſtore and plentie ynough even to ſpare, of Willowes and Oiſiers, yet chuſe rather to bind vines with ſome more ſoft and gentle matter, to wit, with a certaine hearbe, which the Sicilians in their I K L M

language

A language call Ampelodesmos, [i. Vine-bind.] But throughout all Greece they tie their Vines with Rushes, Cyperus, or Gladon, Reeke, and sea-grasse. Over and besides, the manner is otherwhiles to untie the Vine, and for certaine daies together to give it libertie for to wander loosely, and to spread it selfe out of order, yea, and to lie at ease along the ground, which all the yeare besides it only beheld from on high: in which repose it seemeth to take no small contentment and refreshing; for like as draught horses, when they be out of their geeres, and hackneis unsaddled, like as Oxen when they have drawne in the yoke, yea, and greyhounds after they have runne in chase, love to tumble themselves and wallow upon the earth; even so the Vine also, having been long tied up and restrained, liketh well now to stretch out her limbs and loines, and such easement and relaxation doth her much good. Nay, the tree it selfe findeth some comfort and joy thereby,
B in being discharged of that burden which it carried continually as it were upon the shoulders, and seemeth now to take breath and heart againe. And certes, go through the whole course and worke of Nature, there is nothing, but by imitation of day and night, desireth to have some alternative ease and play-daies betweene. And it is by experience found very hurtfull, and therfore not allowed of, to prune and cut Vines presently upon the Vintage or Grape-gathering, whiles they be still wearie and over-travelled with bearing their fruit so lately: ne yet to bind them (thus pruned) in the same place againe, where they were tied the yeare before: for surely Vines do feele the very prints and markes which the bonds made, and no doubt are vexed and put to pain therwith, and the worse for them.

The manner of the Gaules in Lumbardie, in training of Vines from tree to tree, is to take two
C boughs or braunches of both sides, and draw them over, in case the stocke Vines that bear them bee fortie foot asunder: but foure, if they are but twentie foot distant. And these meet one with another in the space betweene, and are interlaced, twisted, and tied together: but where they are somewhat weake and feeble, they bee strengthened with Osier twigs or such like rods here and there by the way, untill they beare out stiffe: and looke where they bee so short that they will not reach out, they are with an hooke stretched and brought to the next tree that standeth without a Vine coupled thereto.

A vine braunch drawne thus along in a traile, they were woont to cut when it had growne two yeares. For in such vine-stockes as by reason of age bee charged with wood, it is the better way to
D give time and leasure for to grow and fortifie the said braunch that is to passe from tree to tree, so as the thickenesse thereof will give leave: yea, and otherwise it is good for the old maine bough to feed still and thrive in pulpe and carnositie, if wee purpose that it should remaine and carie a length with it.

Yet is there one manner besides of planting & maintaining Vines, of a mean or middle nature betweene couching or enterring a braunch (by way of propagation,) and drawing them thus in a traile from one to another: namely, to supplant, that is, lay along upon the ground the whole stocke or maine bodie of a Vine; which done, to cleave it with wedges, and so to couch in many furrowes or raies, as many parcels thereof, comming all together from one. Now in case ech one of these braunches or armes proceeding from one bodie, bee of it selfe small, weake, and tender,
E they must bee strengthened with long rods like staves bound unto them round about; neither ought the small sprigs and twigs that spring out of the side, be cut away.

The husbandmen of Novaria rest not contented with a number of these trailed braunches, nor with store of boughs and trees to sustaine and beare them, unlesse they be shored & supported also with posts and overthwart railes, about which the young tendrils may creepe and wind. No marvell therefore if their wines bee after a sort rough, hard, and unpleasant: for besides the badnesse of their soile, the manner of their husbandrie is so crooked and untoward.

Our husbandmen moreover here about us (neare unto the citie of Rome) commit the like fault, and find the same defect thereupon, in the Varracine Vines, that bee pruned but once in two yeares: a peece of husbandrie by them practised, not for any good that it dooth unto the
F Vine, but because the wine thereof is so cheape, that oftener pruning would not quit cost, neither doth the revenue answere the labour and the charges.

In the territorie of Carseoli (a champion and plaine countrey about Rome) the peasants take a better order, and hold a middle and temperate course. For their manner is to proine and cut away from the Vine those parts onely that are faultie and rotten, when they begin once to be drie and to wither, leaving all the rest for to beare grapes: and thus discharging it of the superfluous

burden

burden that it caried, they hold opinion, that it is not good to wound it in many places: for by this meanes (say they) it will be nourished and come on very well. But by their leave, unlesse the ground be passing rich and fat, Vines thus overcharged with wood, will for want of pruning degenerate into the bastard wild wines called Labruscæ. G

But to returne againe unto our plots planted with Trees and Vines coupled together: such grounds when they be ploughed, require a good deepe stitch, although the corne therin sowne need it not. Also it is not the manner to disburgen or deffoile altogether such trees, and thereby a great deale of toile and labour is saved: but when the Vines are a pruning, they would bee disbraunched at once with them, where the boughes grow thickest; and to make a glade onely through, the superfluous branches would bee cut away, which otherwise might consume the nutriment of the grape. As for the cuts and wounds remaining after such pruning and disbraunching, we have alreadie forbidden, that they should stand either against the North or the South. And I thinke moreover it were very well, that they did not regard the West where the Sun setteth: for such wounds will smart and be long sore, yea, and hardly heale againe, if either extreame cold pinch, or excessive heat parch them. H

Furthermore, a Vine hath not the same libertie in a Vineyard that it hath upon a tree: for better meanes there are, and easier it is to hide the said wounds from the weather flanked as they be within those close sides; than to wryth and wrest them to a mans mind too and fro. In lopping and shredding of trees, when the cut standeth open, there would be no hollow places made like cups, for feare that water should stand therein. Last of all, if a Vine bee to climbe trees that are of any great height, there would bee staies and appuies set to it, whereupon it may take hold, and so by little and little arise and mount up aloft. I

Chap. xxiiii.

The manner of keeping and preserving grapes. Also the maladies whereto trees be subject.

IT is holden for a rule, That the best Vine-plants which run upon a frame of railes, ought to be pruned in mid-March about the feast of *Minerva*, called Quinquatrus: and if a man would preserve and keepe their grapes, it would bee done in the wane of the Moone. Also, that such Vines as be cut in the change of the Moone will not be subject to the injurie and hurt of any noisome vermine. Although in some other respect, men are of opinion, that they should bee cut in the night, at the full of the Moone, when the signe is in Leo, Scorpio, Sagittarius, and Taurus: and generally it is thought good to set them when the Moon is at the full, or at leastwise when she is croisant. Moreover, this is to be noted, that in Italie there need not above ten men for to looke unto a Vineyard of a hundred acres. K

And now that I have discoursed at large as touching the manner of planting, graffing, and dressing of trees, I purpose not here to treat againe of Date-trees and Tretrifolie, whereof I have alreadie sufficiently written in the Treatise of straunge and forraine trees: but for as much as my meaning is to omit nothing, I will proceed forward to decipher those matters which concern principally the nature of trees, and namely, their maladies and imperfections; whereto they also as well as beasts and other living creatures, be subject. And to say a truth, what creature is there under heaven freed therefrom? And yet some say, that wild and savage trees are in no such daunger: onely the haile may hurt them in their budding and blouming time. True it is moreover, that scorched they may be otherwhiles with heat, and bitten with cold blacke winds, comming late and out of season: for cold weather surely in due time is kindly and good for them, as hath been said before. But let me not forget my selfe. See wee not many times the cold frost to kill the very Vines? Yes verily; but this is long of the soile and nothing else: for never happeneth this accident but in a cold ground. So as this conclusion holdeth still, That in Winter time wee alwaies find frost and cold weather to doe much good: but wee never allow of a cold and wealie ground. Moreover, it is never seene, that the weakest and smallest trees are endaungered by frost, but they are the greatest and tallest that feele the smart. And therefore no marvell if in such, the tops being nipped therewith, seeme first to fade and wither; by reason that the native and radicall moisture being bitten and dulled before, was never able to reach up thither. L M

Now, concerning the diseases that haunt trees: some there bee that are common unto all,

others

A others againe, that extend peculiarly to ſome certaine kind or other. As for the former ſort, generall it is, that no trees are exempt from the worme, the blaſting, and the joint-ach. Hereof it commeth, that we ſee them more feeble and weake in one part or member than in another; as if they did participate the maladies and miſeries of mankind, ſo common are the names of diſeaſes unto them both. For certes, we uſe to ſay indifferently, That trees are headleſſe, when they be lopt and topt, as well as men who are beheaded: wee tearme their eies to bee enflamed, ſendged, and bloud-ſhotten, when their buds be blaſted: & many other infirmities, according to the like proportion. And thereupon it is, that we ſay they be hungerſtarved and pined: and contrariwiſe, that they be full of crudites and raw undigeſted humors; namely, when moiſture aboundeth in them. Yea, and ſome of them are ſaid to be groſſe and overfat, to wit, all ſuch as bear roſin; when by the
B meanes of too much greaſe (as it were) they begin to putrifie and turne into Torch-wood: yea, and it falleth out, that they die withall, in caſe the ſaid greaſe take once to the roots; even as living creatures being overgrowne with fat. Moreover, yee ſhall ſee a kind of peſtilence light amongſt one peculiar kind of trees: like as it fareth ſometimes with men in ſundrie ſtates and degrees: whereby one while ſlaves only die of a plague, another while the Commons, and thoſe either artiſans in a citie, or peaſants and husbandmen of the countrey.

Now as touching the Worme, ſome trees are more ſubject unto it than others: and to ſay a truth, in manner all, more or leſſe; and that, the birds know well ynough, for with their bils they will job upon the barke, and by the ſound trie whether they be worme-eaten or no. But what ſay wee to our gluttons and belli-gods in theſe daies, who make reckoning among their daintie di-
C ſhes, of worms breeding in trees; and principally of thoſe great fat ones bred in Okes, which wormes they call Coſſi, and are eſteemed a moſt delicat meat? Theſe forſooth they feed in mue, and franke them up like fat-ware, with good corne-meale. But above all others, Peare trees, Apple trees, and Fig trees, are ſooneſt worme-eaten: and if any trees eſcape, they be ſuch as are of a bitter wood in taſt, and odoriferous in ſmell. Touching thoſe worms that be found in Fig trees, ſome are engendred of themſelves, and of the very wood: others are bred of a bigger vermine called Ceraſtes. Howbeit, all of them (which way ſoever they come) are ſhaped in manner of the ſaid Ceraſtes, and make a certaine ſmall noiſe like the ſhrill and creaking ſound of a little criquet. The Serviſe tree likewiſe is haunted and plagued with little red and hairie wormes, which in the end doe kill it. The Medlar trees alſo when they be old, are ſubject to this maladie.

D As for the miſliking of trees [called Sideratio] whereby they conſume, wither away, and crumble to powder; it is a thing cauſed onely of the weather and influence of ſome Planet. And therefore in this ranke are to be raunged Haile, Blaſting with ſome untoward winds, and Froſts which bite and nip them to the heart. And verily it falleth out, that in a mild and warme Spring, when plants bee too forward and put foorth their ſoft buds and tender ſprouts over-ſoone, the blacke wind taketh them on a ſuddaine, and a certaine rime ſettleth thereupon, ſendging and burning the oilets of the Burgeons, whiles they be full of a milkie ſap: which accident, if it light in blooming time upon the bloſſome, is called properly Carbunculus [i. a Mieldeaw.] As for the Froſt at ſuch a time, it is far worſe than the blaſting aforeſaid: for when it falleth upon any trees or plants, it there reſteth and remaineth ſtill, it congealeth all into an yce, and no puffe of wind there is to
E remove and diſlodge it: for why? ſuch froſts commonly are not but in time of a ſtill, cleare, and calme aire. Touching that manner of Blaſting or miſliking called Sideratio, as if they were ſmitten with the maligne aſpect of ſome planet, this daunger chaunceth peculiarly by ſome drie and hote winds, which are buſie commonly about the riſing of the Dog ſtar, at what time we ſhall ſee young trees and newly graffed, to die outright, eſpecially Figge trees and Vines. The Olive, over and beſides the worme (whereto it is ſubject as well as the Figge tree) hath another greeſe and ſorance called in Latin Clavus, Fungus or Patella [i. a Knur, Puffe, Meazil or Bliſter] chuſe you whether: and nothing is it but a very ſendge or burne by the Sunne.

Furthermore, *Cato* ſaith, That the red moſſe is hurtfull unto trees. Oftentimes alſo we find that as well Olives as Vines, take harme by overmuch fertilitie and fruitfulnes. As for ſcab and skurfe,
F what tree is cleare of it? The running mange or tettar, is a miſcheefe peculiar unto the Fig tree: as alſo, to breed certaine Hoddy-dods or ſhell-Snailes ſticking hard thereto and eating it. And yet theſe maladies are not indifferent and alike in all parts of the tree. For thus you muſt thinke, that ſome diſeaſes are appropriate to one place more than another. For like as men are troubled with the Arthriticall torments, or the Gout; even ſo be trees: yea, & after two ſorts as well as

they.

they: for either doth the diſeaſe take the way to the feet, that is to ſay, to the roots, and there G
breaketh out and ſheweth it ſelfe; or els it runneth to the exteriour joynts and fingers, to wit, the
ſmall branches and top twigs, which be fartheſt remote from the maine bodie of the tree. Here-
upon then begin they to drie, wither, and wax blacke: and verily the Greekes have proper names
and tearmes reſpective to the one infirmitie and the other, which we in Latine want. Howbeit
we are in ſome ſort able to expreſſe the Symptomes following thereupon; and namely, when we
ſay, firſt, That a tree is ill at eaſe, ſicke, and in paine every where: anon, that it falls away, lookes
ill, poore, and leane, when we ſee the freſh greene hew gone, and the braunches fraile and brittle:
laſt of all, that it is in a waſt, conſumption, or fever hecticke, and dieth ſenſibly, to wit, when it re-
ceiveth no nouriſhment (or not ſufficient) to reach unto all parts, and furniſh them accordingly:
and tame Figge trees of all others, are moſt ſubject hereunto; as for the wild, they be exempt H
wholly from all theſe inconveniences hitherto named.

Now as touching the ſcab or ſcurfe incident unto trees, it commeth of certaine foggie miſts
and clammie dewes, which light ſoftly and leiſurely after the riſing of the Brood-hen ſtarre Ver-
giliæ: for if they be thin and ſubtile, they drench and waſh the trees well, and do not infect them
with the ſcab: howbeit in caſe they fall downe right, or that there be an over great glut of ſhow-
ers and raine, the Fig tree taketh harme another way, namely, by ſoking of too much moiſture
into the root.

Vines, over and above the Worme and the Blaſt, have a diſeaſe proper unto themſelves, cal-
led Articulatio, which is a certain barrenneſſe of theirs when they leeſe their ſpring in the verie
joynt. And this may come upon three cauſes: the firſt, when by unſeaſonable and ill weather, as I
froſt, heat, haile, or other forcible impreſſions of the aire, they ſorgoe their young ſprouts: the
ſecond, (as *Theophraſtus* hath well noted) if in pruning of them, the cut ſtand upward and open
to the weather: the third, when they be hurt by thoſe that have the dreſſing of them, for want of
skill and taking good heed: for all theſe wrongs and inconveniences they feele in their joynts or
knots. A ſeverall kind of blaſting or mortification there is beſides in vines, after they have done
blooming, which is called Roratio; namely, when either the grapes doe fall off, or before they
come to their full growth, be baked (as it were) into a thicke and hard callofitie. It happeneth
alſo that they be otherwhiles ſicke, in caſe after their pruning, their tender oilets or buds be ei-
ther bitten with the froſt, or ſindged with ſome blaſt. The ſame befalleth likewiſe unto them upon
ſome untimely or unſeaſonable heat: for ſurely in all things, a certaine meaſure and moderate K
temperature doth well, to bring them to their perfection. To ſay nothing of the wrong that is
done unto them by the vine-maſters themſelves and husbandmen as they dreſſe and trim them,
namely, when they bind them over-ſtreight, as hath been ſaid before; or when the labourer that
diggeth about them, chaunceth to doe them one ſhrewd turne or other by ſome crooked croſſe
blow; or elſe when the ploughman at unawares doth looſen the root, or glaunce upon it with
the ſhare, and ſo disbarke the bodie of it: finally, they have injurie done unto them, in caſe the
pruning-hooke be over blunt, and ſo give them a bruiſe. In regard of all theſe cauſes, they are
leſſe able to beare either cold or heat; for every outward injurie is readie to pierce their freſh
galls, and a ſcald head is ſoone broken. But the tendereſt and weakeſt of all others, be the Apple
trees, and namely, the haſtie kind that bringeth ſweet Iennitings. Howbeit ſome trees there be, L
which upon ſuch feebleneſſe and hurt done unto them, become barren only, & die not; namely,
the Pine and Date tree: for if a man fetch off their heads, you ſhall ſee them faile in bearing fruit,
but this hurt will not kill them quite.

Moreover, it falleth out otherwhiles, that the Apples onely or other ſuch fruits, as they hang,
are diſeaſed, when as the tree aileth nothing; to wit, if in due time they wanted raine, warmth, or
winds that were needfull; or contrariwiſe, if they had too much of every one: for by ſuch means
they either fall from the tree of themſelves, or els they are the worſe for it, if they proove worth
ought at all.

The greateſt diſpleaſure that can happen to Vine or Olive tree, is, when in their very bloo-
ming they be pelted with violent ſhowers of raine; for, togither with the bloſſome, downe goeth M
the fruit of them both. From the ſame cauſe, proceed the cankerwormes or caterpillers (a moſt
daungerous and hurtfull kind of vermine to trees) which will eat out the greene bud, knot and
all. Others there be that will devoure the bloſſome and leafe of Olives alſo, as in Miletum: and
thus having conſumed all the greene leaves, leave the trees bare, naked, and ill-favoured to the

eye,

A eye. Theſe wormes doe breed in moiſt and warme weather, and ſpecially if there be thicke and foggie miſts. Of the ſame vermine, there is another engendred, namely, if there enſue upon the former wet ſeaſon, hoter gleames of the ſunne more than ordinarie, which burne the foreſaid wormes, and therefore chaunge them into other vermine. Moreover, there is a fault or imperfection beſides, wherto Olives and Vines eſpecially are ſubject, and this they call in Latine Araneus, [*i.* the Spider] when cobwebs (as it were) doe enfold and wrap their fruit, keeping them from growing, and ſo in time killing them. Over and beſides, there bee certaine winds which ſindge and burne Olives and grapes principally, yea and all ſorts of fruits whatſoever. In ſome yeares alſo ye ſhall ſee all fruits worm-eaten, and eſpecially Apples, Peares, Medlars, and Pomegranats, without any ſuch hurt and offence to the trees that beare them. As for Olives, the worme
B ſometimes doth them harme, otherwhiles good: for if the worme bee engendred and formed before it take the Olive, it conſumeth and ſpoileth the fruit; but in caſe they breed within the kernel, it cauſeth the Olive to thrive the better, by eating the ſaid kernell that drew away and ſucked the humour which nouriſhed it. The raine that falleth after the riſing of the ſtarre Arcturus, hindreth the generation of wormes, and preſerveth fruits from beeing worme-eaten: and yet if the wind ſit Southward in that time when it ſo raineth, ſuch raines will breed wormes in Olives eſpecially, called Drupæ; which beginning but then to ripen, are moſt readie to fall from the tree. And verily thoſe trees which grow in waterie places or neare rivers, are moſt ſubject to have worme-eaten fruit, which although it fall not ſo ſoone, yet it is as loathſome every way.

Over and beſides, there is a certaine kind of flie reſembling the Gnat, which annoieth ſome
C trees and their fruits, and namely, Maſt and Figs: and it ſeemeth that this flie is engendred of a certaine ſweet humour that lyeth under their barkes. Thus much as touching all diſeaſes to ſpeake of, that trouble trees.

As for the impreſſions of the Aire at certaine ſeaſons, as alſo of other accidents occaſioned by the climat, they are not properly to bee called Maladies, becauſe they kill trees ſodainly: as namely, when a tree is blaſted outright, or all at once doth wither and drie away: like as when ſome puffe of an untoward wind peculiar unto any region, doth ſucke them: ſuch as in Apulia they call * Atabulus, and in Eubœa named Olympias: For if this wind chaunce to blow in mid-winter, it biteth, burneth, and drieth up trees with ſuch cold blaſts, as afterwards no heat of the Sunne is able to recover againe. In this ſort likewiſe, all trees growing in vallies or ſtanding
D along rivers ſides, be endaungered: and above all others, Vines, Olives, and Figge trees. This death that they thus take, is ſoone after diſcovered and ſeene in the budding time when trees begin to put foorth, howſoever it be later ere the Olive ſhew it. Howbeit, a good ſigne it is in them all of their recoverie, when they looſe their leaves: for you ſhall ſee the leaves tarie on in many of them, and when you thinke they are paſt the worſt, ſodainly die. Otherwhiles alſo you ſhall have the leaves to fade and ſeeme drie, yet afterwards the ſame trees to revive againe, and become greene. Furthermore, in the Northerly regions, as in Pontus and Phrygia, ſome trees there are that be ordinarily frozen to death; namely, when the froſt and yce continueth after mid-winter fortie daies. And not onely there, but alſo in other countries, if immediatly after that trees have put foorth their fruit, there follow a hard froſt, they will die upon it, although
E the froſt laſt not many daies.

In a ſecond ranke of cauſes that may kill trees, are to be raunged the injuries and wrongs that come by mans hand. Pitch, oyle, and greaſe, are very enemies and hurtfull to them all, but eſpecially to young trees. Againe, if trees be barked round about, they will die all, unleſſe it be the Corke tree; for it will thrive and proſper the better, if it bee in that wiſe diſcharged of the outward barke; for growing as it doth over thicke, it claſpeth and clingeth the tree ſo hard, that it choketh and ſtrangleth it againe. Neither doth the tree Adrachne find any hurt or offence by disbarking, unleſſe the very wood be cut alſo togither with it. As for Cherrie trees, Lindens, and Vines, it is ordinarie with them to caſt their barke in ſome ſort, and take no harme thereby; but it is not the vitall and lively inner barke in deed which is next unto the bodie, but that onely
F which by comming of another underneath freſh and young, is driven forth and thruſt out.

Some trees there be, which naturally have their barke full of chaps and rifts, as the Planes for example. As for the Line or Linden tree, if it chaunce to leeſe the barke, it will come in manner whole and entire againe. In ſuch therefore the manner is, by way of cure to cloſe up againe with clay and dung, the naked and bare place, and ſo to bring it to a cicatrize. And, I aſ-

* *quaſi ἀτάβολον, i. calamitatem aut peſtem inferens.*

sure you, this practise sometimes speeds well, and doth the deed; provided alwaies, that the naked place were not surprised before the cure, with extremitie either of cold or heat. Certaine it is, that by this meanes both kinds of the Oke, as well the Robur as the Quercus, live the longer, and die nothing so soone as otherwise they would. And herein the time of the yeere ought to be considered, when a tree is thus pilled and disbarked: for in case that a man pill the barke of the Firre or Pine tree, during those moneths wherein the sunne passeth through the signes of Taurus or Gemini, which is the very season of their budding, there is no way but one with them, for presently they die: but if this wrong should befall them in winter, they would abide it the better and longer live, than beeing so misused either in Aprill or May. The same is the case of the mast-Holme, the wild Robur also, and the common Oke. Howbeit, take this note by the way, that if the void place where the tree hath ben barked round about, be but narrow, so as the brims of the barke remaining be not farre asunder, the trees aforesaid will take no harme at all thereby. Mary in the tenderer sort, and such as a man may say are but of a weake complexion, and growing besides in a leane and hungrie ground, if the barke be taken away but of one side and no more, it is enough to kill them. G H

The like may be said of the topping or beheading the Cypresse, the Pitch tree, and the Cedar: for let these have their heads either cut off with an axe, or burnt by fire, they will die, there is no remedie. As much also is to bee said, when beasts doe brouse and eat them. As for the Olive tree, if a Goat chaunce but to licke thereof, it will thereupon proove barraine and beare no more Olives; so saith *Varro*, as wee have noted heretofore. But as some trees upon the like injurie done unto them, will die, so others againe will be but the worse for it; and such are the Almond trees: for where before they did beare sweet Almonds, they will ever after bring bitter. Moreover, you shall have some trees, that willl thrive and doe the better after this hard dealing, and namely, a kind of Peare tree called Phocis, in the Iland Chios: for you have heard by me alreadie, which trees they be that lopping and shredding is good for. I

Most trees, and in manner all (except the Vine, Apple tree, Fig tree, and Pomegranat tree) will die, if their stocke or bodie be cloven: and some be so tender, that upon every little wound or race that is given them, yee shall see them to die: howbeit, the Figge tree, and generally all such trees as breed Rosin, defie all such wrongs and injuries, and will abide any wound or bruse whatsoever.

That trees should die when their roots are cut away, it is no marveile: and yet many there be of them, that will live and prosper well nevertheless, in case they be not all cut off, nor the greatest master roots, ne yet any of the heart or vitall roots among the rest. K

Moreover, it is often seene, that trees kill one another when they grow too thicke; and that, either by overshaddowing, or else by robbing one another of their food and nourishment. The Ivie also, that with clipping and clasping bindeth trees too hard, hasteneth their death. Misselto likewise doth them no good; no more than the Cytisus, or the hearb Auro, which the Greekes name Alimus, growing about them. The nature of some plants is, not to kill and destroy trees out of hand, but to hurt and offend them onely, either with their smell, or els with the mixture and intermingling of their owne juice with their sap. Thus the Radish and the Lawrell doe harme to the Vine if they grow neare unto it: for surely the Vine is thought to have the sense of smelling, and wonderfully to sent any odours: and therefore it is observed in her by experience, That if shee be neare unto Radish or Lawrell, shee will turne away and withdraw her selfe backeward from them, as if shee could not abide their strong breath, but vtterly abhorred it as her very enemie. And upon the observation of this secret in Nature, *Androcydes* the Physician devised a medicine against drunkennesse, and prescribed his patients to eat Radish if they would not be overcome with wine. Neither can the Vine away with Coleworts or the Cabbage, nay it hateth generally all Woorts or pot-hearbs: it abhorreth also the Hazell and Filberd tree; in such sort, as a man shall sensibly perceive it to looke heavily and mislike, if those plants aforesaid grow not farther off from it. And now to conclude and knit up this discourse, would you kill a Vine out of hand? lay to the root thereof nitre or salt-petre, and alumne, drench it with hote sea-water: or doe but apply unto it Beane cods, or the shales or huskes of [illegible] pulse Ervile, and you shall soone see the operation and effect of a most ranke and deadly poison. L M

CHAP.

A

Chap. xxv.

Of many and sundrie prodigies or straunge tokens and accidents about trees. Also of an Olive plot, which in times past was transported all and whole from one side of an high port-way to another.

IN this treatise of the faults and imperfections incident to trees, me thinks I should doe well to say somewhat of the supernaturall occurrences in them observed: for we have knowne some of them to grow up and prosper without any leaves at all. And as there have been vines and
B Pomegranats seene to beare fruit, springing immediatly from the trunke, and not from braunch or bough; so there have been vines charged with grapes, and not clad with leaves: and Olives likewise had their berries hanging upon them whole and sound, notwithstanding all their leaves were shed and gone.

Moreover, straunge wonders and miracles have happened about trees, by meere chance and fortune: for there was an Olive once, which beeing burnt to the very stumpe, revived and came againe: and in Bœotia, certaine Fig trees, notwithstanding they were eaten and gnawne most piteously with Locusts, yet budded anew and put forth a fresh spring. Also it hath been marked, that trees have chaunged their colour, from blacke to white. And yet this is not alwaies a monstrous thing beyond naturall reason, and specially in such as come of seed, as we may observe in
C the Aspe, which eftsoons turneth to be a Poplar. Some are of opinion, that the Service tree, if it be transplanted and come into a hoter ground than is agreeable to the nature therof, will leave bearing and be barrain. But it is taken for no lesse than a monster out of kind, that sweet Apples and such like fruits should proove sowre; or sowre fruit turne to be sweet: as also that a wild Fig tree should become tame, or contrariwise. And it is counted an unluckie signe, if any tree change from the better to the worse; to wit, if a gentle garden Olive degenerate into the wild and savage: if a vine that was wont to beare white grapes, have now black upon it: and so likewise if a Fig tree which used to have white Figs, chaunce afterwards to beare blacke. And here by the way, I can not forget the straunge accident that befell in Laodicea, where (upon the arrivall of K. *Xerxes*) a Plane tree was turned into an Olive. But if any man be desirous to know more of these & such
D like miracles, forasmuch as I love not to run on still and make no end, I referre him over to *Aristander* a Greeke writer, who hath compiled a whole volume and stuffed it full of such like wonders: let him have recourse also to *C. Epidius* a countreyman of ours, whose commentaries are full of such stuffe; where he shall find also, that trees sometimes spake.

A little before the civill warre brake out betweene *Iulius Cæsar* and *Pompey* the Great, there was reported an ominous and fearefull sight presaging no good, from out of the territorie of Cumes, namely, That a great tree there sunke downe into the earth so deepe, that a very little of the top-boughs was to be seene. Hereupon were the propheticall bookes of *Sibylla* perused, wherein it was found that this progedie portended some great carnage of men; and that the nearer that this slaughter & execution should be to Rome, the greater should the bloudshed be.

E A prodigious signe and wonder it is reputed also, when trees seeme to grow in places where they were not woont to be, and which are not agreeable to their natures; as namely, upon the chapters of pillars, the heads of statues, or upon altars: like as to see one tree of a divers and contrarie kind growing upon the top of another; as it befell about the cittie Cyzicum hard before the streight siege that was laid unto it [by *Mithridates*] both by sea and land, where a Fig tree was seene to grow upon a Lawrell. Likewise at Tralleis, about the time of the foresaid civill warre, a Date tree grew out of the base or foot of a columne that *Cæsar* Dictatour caused there to be erected. Semblably at Rome also, twise during the warre betweene the Romans and king *Perseus*, there was a Date tree knowne to grow * upon the lanterne or top of the Capitoll tem-
ple; foreshewing those victories and triumphs which afterwards ensued, to the great honour of
F the people of Rome. And when this was by stormes and tempests overthrowne and laid along, there sprung up of it selfe in the very same place, a Figtree, at what time as *M. Messala* and *Caius Cassius* the two Censors, held their Quinquennall solemne sacrifices for the assoiling and purging of the citie of Rome: from which time *Piso* (a renowmed Historiographer and writer of good credit) hath noted, that the Romanes were given over to voluptuousnesse and sensualitie,

* or as some read, the head of *Iupiter* within the Capitoll.

and that ever since all chastitie and honest life hath been exiled. But above all the prodigies that were ever seene or heard, there is one that passeth, and the same happened in our age, about the very time that *Nero* the Emperour came to his unhappie end and fall: For in the Marrucine territorie there was an Olive garden belonging to *Vectius Marcellus*, a right worshipfull knight of Rome, which of it selfe remooved all and whole as it stood over the broad high way, to a place where lay tillage or erable ground: and the corne lands by way of exchange, crossed over the said causey againe, and were found in lieu of the Olive plot or hortyard aforesaid. G

Chap. xxvi.

The remedies for the maladies and diseases of Trees.

NOw that I have declared the diseases of trees, meet it is that I should set downe the cure and remedies thereto. Where, this one thing would be first noted, that of Remedies, some » be common to all trees, others appropriate to certaine. Common be these following, To » bare and cleanse the roots, to hill and banke them again; that is to say, to give aire unto the roots, » and let the wind into them: and contrariwise to cover them, & keep both wind and weather from » them: to water them, or to derive and divert water from them: to refresh their roots with the fat » liquor of dung: to discharge them of their burden, by pruning their superfluous branches. *Item* » To give their humors issue, and as it were by way of Phlebotomie to let them bloud: and to skice » and scrape their barke round about, in manner of scarification. To take downe their strength and » keepe them under, that they be not too lustie and prowd. Also, if the cold hath caught their buds » or burgeons, and therby caused them to looke burnt, rough, and unpleasant; to slicke, pollish and » smooth them againe with the pumish stone. These verily bee the divers remedies to cure trees: howbeit, used they must bee with great discrétion: for that which is very good for one, is not so good for another: and some trees require this course and others that, to bee taken with them. As for example, the Cypresse tree cannot abide either to be dunged or watered, it hateth all digging and delving about it, it may not away with cutting and pruning, it is the worse for all good Physicke, nay, all remedies to others, are mischeefes to it; and in one word, goe about to medicine it, you kill it. All Vines, and Pomgranat trees especially, love a life river-sides, and desire to be watered: for thereby will they thrive and prosper. The Fig tree also it selfe is nourished and fed in waterie grounds: but the fruit that it beareth, is the poorer by that meanes. Almond trees if they be plied with digging, will either not bloume at all, or else shed their flowers before due time. Neither must any yong plants or trees, newly graffed, be digged about their roots, before they have gathered sufficient strength, and begin to beare fruit. Most trees are willing inough to be disburdened of their superfluous and over-ranke braunches, like as we men can spare our nailes to bee pared, and bush of haire to be cut when they be overgrowne. As for old trees, they would bee cut down hard to the ground, for commonly they rise againe of some shoot springing from the root: and yet not all of them. Regard therefore must be had, that none be so used but such (as wee have noted before,) as are able of nature to abide it. For trees to be watered at the roots in the heat of summer, it is good, but in winter it is as bad. In the fall of the leafe it may be holesome, it may also be hurtfull, and therefore the nature of the soile would be considered: for the grape-gatherer in Spaine, meeteth with a good Vintage, notwithstanding the Vines stand in a marish and fennie ground; howbeit, in most parts of the world besides, it is thought good husbandrie to draine away from their roots the very raine water that falleth from above, in Autumne. About the rising of the Dogge-star, trees desire most of all to be well watered: and yet they would not have too much thereof, even in that time; for in case their rootes bee over-drenched and drowned therewith, they will catch harme. Herein also the age of trees is to bee respected, which in this case prescribeth what is meet and sufficient: for young trees bee lesse thirstie than others. Also, custome is a great matter. For such as have beene used unto watering, must not chaunge their old woont, but they require most of all others to be used so still. Contrariwise, those trees that grow upon drie grounds naturally, desire no more moisture than that which is needfull. In the territorie about Sulmo, in Italie, and namely, within the liberties of Fabianum, the Vines that beare the harder and sourer grapes, must of necessitie bee watered: and no marvaile, for the verie lands and corne-fields use to have water let in unto them. And here a wonderfull thing is to be observed, This water cherisheth the corne, but killeth all the hurtfull grasse among: and H I K L M

the

A the river overflowing the lands, is as good as a weeding. In the ſame countrey the manner is in midwinter to open a ſluce or draw up their floud-gates, for to overflow their Vine roots with the river: and ſo much the rather, if either it be an hard froſt, or ſnow lie upon the ground: And why ſo? becauſe the pinching cold ſhould not burne them: and this they call there by the name of Tepidare, [*i.* to give them a kindly warmth as in a ſtouve:] ſee the memorable nature of this onely river, to be warme in winter; and yet the ſame in ſummer is ſo cold, that hardly a man can endure his hand in it.

Chap. XXVII.

Of caprification or ſcarifying trees: alſo the manner of dunging them.

B TOuching the remedies for blaſting as well by heat as cold, I will treat in the book next following. Meane while I cannot omit one manner of cure by way of Scarification. For when the barke is poore and leane, by reaſon of ſome diſeaſe or miſliking, ſo as it clengeth together, preſſing and binding the quick wood overmuch, whereby the tree is as it were hide-bound, they uſe to ſlit the ſame along with a very ſharpe cutting hooke, guiding and gaging the edge thereof with both hands, that it goe not over-deepe: and ſo by theſe inciſions they doe open it, and as it were loſen and enlarge the skin. Now, when this feat is wrought, the onely ſigne that it is well done and good for the tree, is this, if the inciſions in tract of time appeare wide, and the void place incarnate againe and fill up with a kind of callous ſubſtance, compounded of the ſap and wood together growing betweene. Whereby it appeareth, that in many caſes the cure of
C mens maladies and the diſeaſes of trees is very like: for that even their bones alſo uſe to be trepanized and bored through as well as ours. Alſo for to make ſweet Almonds of bitter, firſt the tree muſt bee digged round about, and then boared through with an augoer toward the root or butt end, whereby the wateriſh humor that runneth downward, may iſſue forth and paſſe away. Moreover, if a man would diſcharge Elmes of their ſuperfluous moiſture, they muſt be pierced with a wimble, a little above the ground, as far as to the very heart or pith; if either they bee old, or be perceived to receive overmuch nutriment. In like manner the ſame exceſſive humour is let out of Figge trees by the meanes of certaine light-ſlits or gaſhes made in the barke, aſlant or byas, in caſe it ſeeme to ſwell and bee over-ſtreight: and by this deviſe they prevent the falling of their fruit.

D Generally, what trees ſoever bearing Apples or ſuch like ſoft fruit without, if they chaunce at any time to prove barren, that is to ſay, to put foorth leafe onely without any fruit; the uſe is, firſt to make a clift in the root; then, to put a ſtone therein, that the edges meet not and rejoin again; and ſo they become fruitfull. The ſame is practiſed in Almond trees alſo, but in ſteed of the ſtone there muſt a wedge of Okewood be driven in. As for Pyrries and Medlar trees, thoſe wedges muſt be made of Pine Torch-wood. Moreover, if either Vines or Figge trees, be over ranke of wood, it is very good to cut and skice their roots round about, and when they bee thus ſerved, to cover with aſhes the ſaid inciſions: but then they muſt be cloſe covered with aſhes and earth aloft. If yee would have trees beare Figges at the latter end of the yeare, plucke off the firſt greene Figges ſo ſoone as they bee ſomewhat bigger than Beanes: for under them there will other come up in
E the place, and be later ere they waxe ripe. The ſame Fig-trees when they begin to ſpring leafe and looke greene, if the top-twigs of every bough be cut off, become the ſtronger and more fruitfull by it. For as touching the ripening of Figges by Caprification, true it is, that there bee certaine flies like gnats engender in greene Figs, which are the occaſion thereof: for when they are flown out, there are no graines or ſeeds found within: whereby it is evident, that they bee turned into thoſe flies. And when they doe flie forth, ſo haſtie they are to be gone, that many of them as they breake out, leave either a foot or a wing behind them. Beſides, another kind there is of gnats, which they call Centrinæ, for ſlouth and ſhrewdneſſe like in all the world to Drone-bees, ſo miſcheevous they be to the good flies or gnats indeed, that cauſe the Figs to ripen: for, them they kill, and die themſelves when they have done. Moreover, there bee certaine wormes like mothes,
F that ordinarily doe much hurt to the graines or ſeeds within Figs, and eat them quite: The only remedie againſt this vermine, is to take a twig or impe of the Italian Lentiske tree, and to ſet or couch it with the wrong or top-end downeward, in the very ſame trench where the Fig tree was planted. For to have Fig trees beare moſt plentifully, take ruddle or red-earth tempered well with the lees or grounds of oile, after that the ſame is mixed with dung, poure it to the roots of the

trees when they begin to put forth leaues. Among wild Fig trees, the beſt are the black and thoſe G
that grow in ſtonie grounds: for their Figges are fulleſt of cornes or graines within. And as for caprification, it would be practiſed after raine. And take this for a generall rule, That yee beware in any hand in curing of trees, leaſt yee uſe a miſcheefe for a remedie, a thing that commonly happeneth by over many medicines, or the ſame not applied in due ſeaſon. For as it is very good for trees, to lop and cut off their boughs where they grow too thicke: ſo to be hacking and mangling of them every yeare, hurteth them as much. As for the Vine, it requireth pruning once a yeare: but the Myrtle trees, Pomgranate, and Olive trees, every two yeares; becauſe they will quickly ſpring againe and ſhoot forth branches thicke. Other trees would not bee lopped ſo often. Neither is it good to cut or prune any whatſoever it be, at the fall of the leafe. Nay, they are not ſo much as to bee ſcraped, but in the pruning time, that is, in the Spring. All wounding of H
trees goeth to the very heart, and hurt the quicke, unleſſe it be of thoſe parts that are ſuperfluous.

As great conſideration there would be had in the manner of mucking them. No doubt, they love dung well: but carefull heed would be taken firſt, that none bee laid to their roots in the hoteſt ſeaſon of the yeare. *Item*, That it be not greene, but throughly rotten: laſtly, that it bee not over ranke nor ſtronger than is needfull. Swines dung burnes the roots of Vines, unleſſe it bee five yeares old, or the Vines ſtand in ſome place where water is at commaundement, for to coole the exceſſive heat thereof. Alſo the filth of Tanners ooſe and Curriers ſcrapings doe the like, if they be not well delaied with water. Likewiſe it muſt not be laid too thicke. The ordinarie proportion is thought to be for every tenne foot ſquare, three Modij of dung. But herein no certainetie can be ſet downe: for the nature of the ſoile muſt rule all. With Swines and Pigeons dung, they uſe to ſoulder the cuts and wounds that are given to trees. In caſe the Pomgranates grow to bee I
tart and ſoure, the manner is to dig about the root and lay it bare, and then to put Hogs dung thereto: for that yeare the Pomgranates will be full of a wine juice; and the next yeare following prove ſweet. Some good husbandmen there be, that thinke it meet and requiſite foure times a yeare to water their roots with mans urine and ſhere water together, and upon every one they beſtow a whole Amphore. Or elſe to bedeaw and ſprinckle the top-braunches of the Pomgranat trees with wine, wherein Laſer hath beene ſteeped. When the Pomgranate doth cleave and open upon the tree, it is good to wreath the ſteale thereof. If Figges doe the like, there would bee oile lees caſt upon them. Other trees when they are amiſſe or doe miſlike, ought to be drenched with wine lees: and Lupines if they bee ſet about their roots, will helpe them. The water alſo or decoction wherein Lupines were ſodden, poured about the roots of Apple trees or ſuch like, dooth K
them much good. If it happen to thunder about the feaſt Vulcanalia, Figges will fall from the tree. The remedie thereof is to ſtrew the plots before with Barley ſtraw. Would you have haſtie Cherries? Lay lime to the roots of the tree, it will cauſe them to ripen their fruit ſpeedily. Of all fruits theſe haſtie Cheries would bee plucked and gathered as they ripen, to the end that thoſe which be left behind, may thrive and grow big and faire.

Chap. xxviii.

Many and ſundrie medicines ſerving for trees: to wit, remedies againſt venomous vermine and Piſmires, likewiſe againſt all hurtfull beaſts. L

SOme trees there bee which are the better for wrong and injurie done unto them: yea, and if they be pinched or bitten, they ſhoot up the rather, as Date trees and the Lentisks; for even the very ſalt water nouriſheth them. And true it is, that aſhes hath the like nature and vertue that ſalt, howbeit, more mild and gentle. Hereupon it commeth alſo, that Fig trees uſe to bee ſtrewed therwith, yea, and to be wet with the juice of Rue, to the end, that neither their fruit ſhould prove worme-eaten, nor their roots putrifie and rot. Moreover, if Vines bee too full of moiſture, and apt to bleed overmuch, it is an ordinarie thing to poure ſalt water to their roots. Alſo, in caſe their grapes be apt to fall, folke uſe to take aſhes and beſprinckle them with vinegre, and ſo to beſmeare the roots therewith: or elſe with red Orpiment, in caſe the grapes be given to putrifaction. M
Say that Vines be barren and will not beare grapes, their roots ought to bee well drenched and dawbed with ſharpe vinegre and aſhes incorporate together. But what if a Vine bring not her fruit to full maturitie, before it begin to waxe drie and to wither? the ſuperfluous wood ought to bee cut away about the root, and the cuts together with the ſmall ſtrings or beard of the root to

be

A be wet and ſoked in ſharpe vinegre and ſtale chamber-lee, and then they ſhould bee well covered and ſtopped with a kind of morter made therewith, and often digged about. As for Olives, if they make ſhew of ſmall encreaſe, their roots muſt be bared and laid open to the cold in winter; for by this manner of chaſtiſement they will amend and doe far better.

In all theſe remedies, proceed wee muſt according to the courſe of the yeare: for ſometime the ſeaſon requireth, that the meanes ſhould be ſooner uſed, and otherwhiles later. Some plants there be that fire is good for, and namely, canes and reeds: for if they be burnt, they will come up againe the thicker and more ſmooth. As for *Cato*, hee hath certaine compound medicines for trees, diſtinct by ſundrie meaſures by him preſcribed: for hee hath ordained to the roots of the greater trees an *Amphore, but of the leſſe an *Vrna onely, of Oile dregs, with an equall quan-
B titie of water: all which being tempered together, he would have to be poured by little and little to the roots, but they ought before to be digged about and laid bare. And for the Olive, hee addeth moreover, that the roots ſhould have a bed of litter or ſtraw made before, and then uſed accordingly. In like manner alſo would the Fig tree be ſerved: but eſpecially at the roots of it there ſhould bee raiſed a banke of old earth: for by that meanes it will come to paſſe, that the greene Figs will not fall, they will beare more plenteouſly, and the fruit bee more ſmooth and pleaſant. To prevent in like manner, that the worme *Convolvulus bred not in a Vine, hee appointed two gallons of oile dregs or lees, to be boiled firſt to the thicke conſiſtence of honie, and then afterwards to take a third part of the ſlime Bitumen, and a fourth part of brimſtone, and ſeeth all together againe in the open aire; for within dores there would be ſome danger of ſetting the houſe
C a fire. With this mixture, if a Vine bee well annointed about the joints, and under their hollow armepits, he aſſureth us, that there will no ſuch worme breed therein. Some content themſelves to perfume Vines onely with the ſmoke of this compoſition, ſo as it bee done on the wind-ſide, that it may carie the fume directly to them; and this ſhould bee continued for three daies together. Many are of opinion, that wine being mingled with a like quantitie of water (becauſe alone of it ſelfe it is hurtfull) is as good for this purpoſe as the oile dregs aboveſaid, which *Cato* hath preſcribed. Another kind of vermine or worme there is, that gnaweth the tender buds or burgeons of the Vine, and the ſame is called Volvox: To preſerve Vines from this harmefull creature, men are wont to take their Vinehookes when they be newly ground & ſharpened, then to ſcoure them with a Beavers skin, and with them to prune the Vines: or elſe after they bee pruned, to an-
D noint them with Beares bloud. Moreover, Ants or Piſmires make foule worke otherwhile among trees. If you would drive them away, dawbe the ſtock or butt end with red Sinopre and Tar tempered together. Or doe but hang up any fiſh neare by, and all the Piſmires will leave their former haunt, and gather about it. Others make no more adoe, but ſtampe Lupines with oile, and therewith annoint the roots. Many there are, who kill both them and Moldwarpes with oile dregs. Alſo, againſt Palmer-wormes or Caterpillers, and to keepe Apples from rotting, they give order for to annoint the top twigs and branch ends of trees with the gall of a greene Lizard. But more particularly againſt the ſaid Caterpillars, they would have a woman whiles her monthly ſickneſs is upon her, to goe round about every tree by it ſelfe, barefooted and barelegged, unbraced and unlaced, and her haire hanging about her eares. Moreover, to preſerve trees from wild and noi-
E ſome beaſts, that none of them come neare to bruſe and marre their greene ſpring, they doe appoint to beſpreint their leaves with greene Cow or Oxe ſhearne, and water together, betweene ſome ſhowers, that the raine may waſh away the mallice and hurtfull qualitie of the medicine. A wonder to ſee how inventive men are to deviſe remedies for every miſcheefe: for many you ſhall have, who be verily perſuaded, that there be certain charmes and inchantments to drive away the haile. But for mine owne part, I thinke it meere mockerie to ſet downe the very words, although *Cato* hath done it before mee. Who alſo ſpeaketh of another ſpell for diſlocations or members out of joint (an accident happening to trees) which he would have to bee joined cloſe within the clift of canes. The ſame writer hath permitted men to cut downe ſacred groves, trees alſo dedicated for religion and ſequeſtred from prophane uſe (after a ſolemne ſacrifice to the gods firſt
F performed:) the reaſon and manner whereof he hath put downe in a certaine Treatiſe, which he compiled of purpoſe as touching that argument.

*Amphora, or, *Quadrantal*, was a meaſure Roman of liquor, containing 16 *Congij*, which is much about 16 wine gallons.
**Vrna*, is halfe *Amphora*, to wit, 8 gallons, or thereabout.
* Vine fretter, or the Divels gold-ring.

THE

THE XVIII. BOOKE OF THE HISTORIE OF NATVRE,

WRITTEN BY C. PLINIVS SECVNDVS.

CHAP. I.

Of the exceeding love and affection of our auncestors in old time to Agriculture and Husbandrie. Also, of their singular paines and diligence about gardens.

NOw followeth the treatise of Corne, of Gardens, and Flowers, and generally of all things else, that by the goodnesse of Nature the Earth bringeth foorth bountifully, besides Trees and Shrubs. The speculation whereof verily is infinite, if a man doe but consider the number and varietie of Hearbs and Flowers, togither with their odors and colours; the diversitie also of their juices, their severall vertues and properties, whether it be to cure men of their maladies, or to give them pleasure and contentment to their senses. But before that I enter into this discourse, very willing I am to take in hand the cause of the Earth (the common mother of us all) and to assist her against all slaunderous imputations, notwithstanding I have in the beginning of this my worke pleaded once alreadie in her defence. For when wee looke into the matter within her contained, we are set on fire inwardly to find fault with her for breeding and bearing noisome things, charging upon her our owne faults, and imputing unto her that, for which wee of right ought to be blamed. Set case shee hath brought forth poison and venime, Who hath searched them out but man? As for the foules of the aire and wild beasts, it is sufficient that they touch them not, nay they know how to beware and avoid them. For say that the Elephants doe file their teeth sharpe against hard trees, say that the Rhinocerotes whet their hornes against the rockes, and the wild Bores sharpen their edge tuskes against both stocke and stone; say that all creatures know well enough how to prepare and frobish their weapons to do mischiefe, Which of them all yet infect them with poison, but man alone? We have the cast to envenime and poison arrowes; we can tell how to put something to our darts of yron and steele, more hurtfull and mischievous than they be. It is ordinarie with us to poison rivers also; yea and the very Elements whereof the world doth stand, are by us infected: for even the Aire it selfe, wherein and whereby all things should live, we corrupt to their mischiefe and destruction. Neither can we truly say or thinke, that other creatures besides us are ignorant of these poisons; for wee have alreadie shewed, that they are not to seeke either what defensatives to provide against they should fight with serpents, or what remedies to find for their cure after they have fought and are hurt. Moreover, setting man aside, there is no creature furnished or armed with any other venime, but their owne. We cannot chuse therefore but confesse our great fault and deadly malice, in that we rest not contented with naturall poisons, but betake our selves to many mixtures and compositions artificiall, made even with our owne hands. But what say you to this? Are not some men themselves meere poisons by nature? for these slaunderers and backbiters in the world, what doe they else but launce poison out of their blacke tongues, like hideous serpents? what doe these envious persons, but with their malicious and poisonfull breath sindge and burne all before them that they can reach or meet with, finding fault with every thing whatsoever? Are they not well and fitly compared to these cursed foules flying in the darke, which albeit they sequester themselves from

A from birds of the day, yet they bewray their ſpight and envie even to the night and the quiet repoſe thereof, by their heavie grones (the onely voice that they uttet) diſquieting and troubling thoſe that be at reſt: and finally, all one they be with thoſe unluckie creatures, which if they happen either to meet or croſſe the way upon a man, preſage alwaies ſome ill toward, oppoſing themſelves (as it were) to all goodneſſe, and hindering whatſoever is profitable for this life. Neither doe theſe monſtrous and abominable ſprites know any other reward of this their deadly breath, their curſed and deteſtable malice, but to hate and abhor all things. Howbeit, herein may we acknowledge & ſee the wonderfull majeſtie of dame Nature: for like as ſhe hath ſhewed her ſelfe more fruitfull and liberall in bringing forth profitable and holeſome plants, in greater plentie than hurtfull and noiſome; ſo ſurely hath ſhe furniſhed the world better with good men
B and vertuous for the weale publicke. In which regard and conſideration, we alſo taking no ſmall joy and contentment (leaving theſe troubleſome ſpirits to themſelves for to broile and frie in their owne greace) will goe on forward and proceed to declare the reſt of Natures workes; and with the better reſolution, for that wee ſeeke more pleaſure and contentment in the paines and travaile that we take, than expect any fame or bruit of men afterwards. For why? we are in hand to ſpeake of the countrey and countrey commodities, ſuch as in old time like as they were moſt neceſſarie for this life, ſo they were accounted and honoured moſt highly.

Chap. II.

Of the firſt guirland or chaplet made of hearbs and flowers at Rome.

C

THe firſt order that king *Romulus* inſtituted in Rome citie newly built, was the guild or fraternitie of certaine Prieſts or Wardens over corne fields, which were in number twelve. And for to doe the greater honour to this companie, he cauſed himſelfe to be called the twelfth brother among them: and *Acca Laurentia*, the nource or foſter-mother of this Prince, beſtowed upon him a guirland of corne eares, twiſted and tied togither with a white ribband, as the moſt ſacred badge and enſigne of this new prieſthood, which he and his brethren ſhould weare with great reverence and devotion: and this was the very firſt chaplet knowne at Rome. Now the honour of this ornament was perpetuall, and continued for terme of life; ſo as a man once inveſted therein, could not be degraded and deprived thereof, though hee were baniſhed or taken
D priſoner; it accompanied him ever to his dying day. Then, and in thoſe daies, every man within the whole bodie of the people of Rome, contented himſelfe with two acres of land, and K. *Romulus* aſſigned to none of his ſubjects a greater proportion: whereas now yee ſhall have thoſe that erewhile were but ſlaves and ſervants under the Emperour *Nero* (deſpiſing as not ſufficient, greene encloſures and gardens of that compaſſe) muſt have fiſhpooles alſo bigger than ſo: and well it were if they would ſtay there and goe no further, for ſhortly we ſhall ſee ſome one or other of them, never reſt untill hee have kitchins alſo more than two acres wide. And thus much for king *Romulus*.

King *Numa* his ſucceſſor, ordained to worſhip the gods with an oblation of corne, yea and to offer prayers and ſupplications unto them by no other meanes, than cakes made of ſalt and
E meale: yea and as *Hemina* mine author ſaith, for to induce the people of Rome the better unto it, he allowed them to parch their corne in their ſacrifices; for that corne thus parched, was ſuppoſed to be a more holeſome food: by which meanes, this one thing enſued in the end, that no corne was counted pure and good, nor fit to bee uſed in divine ſervice, but that which was thus baked or parched. He alſo inſtituted the feaſt Fornacalia, to wit, certaine holydaies for the parching and baking of corne: as alſo another as religiouſly obſerved, called Terminalia, namely, for the bounds and limits of lands: for theſe and ſuch like gods, as then, they worſhipped moſt: as alſo the goddeſſe *Seia*, ſo called *à ſerendo*, [*i.* of ſowing corne and ſetting plants:] and *Segeſta*, which name they gave her *à ſegetibus*, [*i.* of corne fields:] whoſe images wee at this day doe ſee in the grand Cirque or Shew-place at Rome. A * third goddeſſe there is among them, whome
F to name and invocate within-houſe, they might not with ſafe conſcience. Laſtly, ſo religious and ceremonious they were in old time, that they would not ſo much as taſt of new corn or wine, before the Prieſts had taken a ſey of the firſt fruits.

* *Tertiam*, to wit, *Tutelina*, for preſerving of trees planted, & corne ſowne: or as ſome read (*Tertium*) meaning *Terminus*.

Chap.

Chap. iii.

Of Iugerum, and Actus. Of the ancient lawes ordained for cattell in old time. How often and at what times corn and victuals were exceeding cheape at Rome. What noble and famous persons addicted themselves wholly to Husbandrie and Tillage.

AN Acre or Arpen of ground, called in Latine Iugerum, was as much as might be eared up or ploughed in one day with a yoke of Oxen. And Actus in Latine, is a land, or so much just as two Oxen are driven and occupied in, whiles they plough in one tract without any rest. This contained by the old time, a hundred and twentie foot in length: and being doubled in length, made the Acre or Iugerum aboveſaid.

In auncient time of the old Romanes, the greateſt preſent that could be given to captaines and ſouldiors who had borne themſelves valiantly in the ſervice of their countrey, was as much ground as they could have eared or broken up in one day. And it was thought a great reward to receive at the hands of the people of Rome halfe a pint (or a pint at the utmoſt) of corne. Moreover, in ſo great requeſt was Corne and Husbandrie, that the firſt and cheefe houſes in Rome took their ſurnames from thence: and namely, the *Pilumni*, who deviſed firſt the peſtill to bray corne withall in their mils and back-houſes: alſo, the familie of the *Piſones*, who tooke their name, *à piſcendo*, [*i.* of ſtamping or pounding corne in a morter.] The *Fabij* in like manner, the *Lentuli*, and the *Ciceroes*, each one according to the ſeverall pulſe that they skilled beſt to ſet or ſow. Moreover, to the houſe of the *Iunij*, they gave the ſurname of *Bubulcus*, by occaſion of one of their anceſtors, who knew paſſing well how to uſe and order Oxen. Over and beſides all this, that you may know what regard was had of Corn, among other ſacred and holy ceremonies, there was nothing reputed more religious than the bond of Confarration, in knitting up of mariages, and aſſurance making of the cheeſe prieſts: yea, the manner of the new wedded brides was to carie openly before them a wheaten cake. In times paſt, the Magiſtrates called Cenſors, judged it a treſpaſſe worthie of a great rebuke, to bee an ill husband, that is to ſay, to bee careleſſe and negligent in tilling the ground. And as *Cato* reporteth, if men called one by the name of a good Husbandman, they were thought to have praiſed & commended him in the higheſt degree. Hereupon alſo it came, that rich and ſubſtantiall men were tearmed in Latine, Locupletes, as one would ſay, Loci-pleni, [*i.* well landed.] And as for the very word, Pecunia in Latine, which ſignifieth money, it tooke the name of Pecus, that is to ſay, cattell. And even at this day (as it appeareth in the Regiſters of the Cenſors, and the accounts of the citie chamber) all their rents, revenues, and cuſtomes growing unto the people of Rome, are called Paſcua; for that a long time the whole domaine of Rome, ſtood upon paſturage and nothing elſe. The penalties and fines alſo, which offendants were put to pay, were raiſed of nothing elſe but of Kine, Oxen, and Sheepe: where, by the way, I cannot conceale from you the favourable regard that the auncient lawes and ordinances of Rome had; whereby it was expreſſely forbidden, That no Iudge who had power to enjoine or impoſe any paine and amercement, ſhould name the fine of an Oxe, unleſſe hee had paſſed that of a Sheepe firſt. The ſolemne games and plaies alſo in the honour of Kine and Oxen, they who frequented them, called Bubetij. Moreover, king *Servius* at the firſt when he made brazen coine, ſtamped the peeces with the portraiture of Sheepe, Kine, and Oxen. By the lawes of the twelve Tables, all perſons whatſoever above foureteene yeares of age, were forbidden under paine of death, either by ſtealth, to feed their cattaile in the night time upon any corne-field of another mans, plowed and ſowen; or to cut the ſame downe by ſyth or ſickle at ſuch a time, and in that manner. By the ſame lawes alſo ordained it was, That whoſoever was attaint or convicted thereupon, ſhould be hanged by the head and ſtrangled for ſatisfaction of the goddeſſe *Ceres*: and in one word, to be more greevouſly puniſhed than in caſe of manſlaughter. But if the offender were under that age beforeſaid, the ſame law provided, that he ſhould be whipped at the diſcretion of the Pretor or lord cheefe Iuſtice for the time being: or, if this puniſhment were remitted by the partie who ſuſtained the domage, then he ſhould ſatisfie unto him for the treſpaſſe as a ſlave, and pay double for the loſſe, according as honeſt and indifferent men valued it. Furthermore, in auncient time, the diſtinction of States and degrees in the cittie of Rome (both for wealth and worſhip) was according to their lands, and not otherwiſe. Inſomuch, as thoſe cittizens were reputed for cheefe and principall, who were poſſeſſed of land and living in the countrey: and theſe made the State, called the Ruſtick Tribes, in Rome: wheras contrariwiſe the other eſtate, reputed

the

A the meaner in degree, was named the Vrbane Tribes; consisting of Artisanes & such like as were not landed persons: into which, if a man were transferred from any of the rest, it was thought a great shame and disgrace, as if hee were reproched for idlenesse and negligence in husbandrie. And hereupon these foure Tribes alone tooke name of those foure principall parts or quarters of the citie wherein they were seated, to wit, Suburrana, Palatina, Collina, and Exquilina. Over and besides, upon faires & market daies, the Rusticke Tribes usually visited the citie: upon which daies therefore no publicke assemblies of the people were holden, to call the Commons away from their market affaires. Also the manner in those daies was to take their sleepe and repose in good straw and litter. Yea, and when speech was of glorie and renowne, men would call it by no other tearme but Adorea, of Ador, a kind of fine red wheat. Where, by the way, I have in great
B admiration the antique words of those times, and it doth me good to thinke how significant they were. For thus we read in the sacred Pontificall Commentaries of the high priests, *For the Augurie or solemne sacrifice called *Canarium, let there be certain daies appointed, to wit, before that the corne shew eare out of the hose, yea, and before that it come into it.* But to returne againe to the praise of Husbandrie. When the world was thus addicted and given to Agriculture, Italie was not only well provided and sufficiently furnished of corne, without any helpe from our provinces; but also all kind of graine and victuals were in those daies so exceeding cheape, as it is incredible. For *Manius Martius* a Plebeian Ædile of Rome, was the first man that served the people wheat at one Asse the Modius: and after him *Minutius Augurinus*, the eleventh Tribune of the Commons, (even he who endited that mutinous and seditious citizen *Sp. Melius*) brought downe the price of
C wheat for three market daies to an Asse the Modius. The people therefore of Rome, in regard of this good deed of his, erected a statue for him without the gate Trigemina; and that with such affection and devotion, that every man contributed somewhat thereto by way of benevolence. *Trebius* also in the time of his Ædileship, caused wheat to bee sold unto the people at the same rate, to wit, one Asse a Modius. For which cause, there were two statues also in memoriall of him set up, both in the Capitoll and also in Palatium: and himselfe when he was departed this life, had this honour done unto him by the people, at his exequies, as to bee caried on their shoulders to his funerall fire. It is reported moreover, That in the very same yeare wherein the great goddesse *Cybele* (called also the mother of the gods) was brought to Rome, there was a more plentifull harvest that Summer, and corne was at a lower price than had been knowne in ten years
D before. Likewise, *M. Varro* hath left in writing, That when *L. Metellus* made shew of so many Elephants in his triumph at Rome, a Modius of good red wheat, was worth no more than one Asse. Also a gallon of wine cost no more. And as for drie Figges, thirtie pound weight caried no higher price: and a man might have bought a pound of oile Olive, and twelve pound of flesh at the very same reckoning. And yet all this plentie and cheapenesse proceeded not from the great domaines and large possessions of those private persons that encroched upon their neighbors, and hemmed them within narrow compasse. For by the law published by *Stolo Licinius*, provided it was, That no Romane citizen should hold in private above five hundred Acres. The rigor of which law or statute was extended and practised upon the Law maker himselfe, and by vertue
E thereof he was condemned: who, for to possesse above that proportion, and to defraud the meaning of the said Act, purchased more lands in the name of his sonne. Lo what might be the proportion and measure of possessions allowed even then, when as the State and Common-wealth of Rome was in the prime and began to flourish. And as for the Oration verily of *Manius Curius* after such triumphs of his, & when he had subdued and brought under the obeisance of the Roman Empire and laid to their dominion so many forrain nations; what it was, every man knoweth, wherin he delivered this speech, That he was not to be counted a good man, but a dangerous citizen, who could not content himselfe with a close of seven acres of ground. And to say a truth, after that the kings were banished out of Rome, and their regiment abolished, this was the verie proportion of land assigned to a Romane Commoner. If this be so, What might be the cause of so great plentie & abundance aforesaid in those daies? Certes, this & nothing els, Great LL. and
F generals of the field (as it should seeme) tilled themselves their ground with their own hands: and the Earth again for her part, taking no small pleasure (as it were) to be eared and broken up with ploughs Laureat, and ploughmen Triumphant, strained her selfe to yeeld encrease to the uttermost. Like it is also, that these brave men and worthie personages were as curious in sowing a ground with corne, as in ordinance of a battell in array: as diligent (I say) in disposing and ordering

* Made with a red dog to pacifie the Dog-starre.

ring of their lands, as in pitching of a field: and commonly every thing that commeth under G
good hands, the more neat and cleane that the usage thereof is, and the greater paines that is ta-
ken about it, the better it thriveth and prospereth afterwards. What shall wee say more? was not
[*C. Attilius*] *Serranus* (when the honourable dignitie of Consulship was presented unto him,
with commission to conduct the Romane armie) found sowing his own field and planting trees,
whereupon he tooke that surname *Serranus*? As for *Quintius Cincinnatus*, a pursevant or mes-
senger of the Senat brought unto him the letters patents of his Dictatorship, at what time as he
was in proper person ploughing a peece of ground of his owne, containing foure acres and no
more, which are now called Prata Quintiana, [*i. Quintius* his medowes] lying within the Vati-
cane: and (as it is reported) not only bare-headed was hee and open breasted, but also all naked
» and full of dust. The foresaid officer or sergeant taking him in this manner, Doe on your cloths
» sir (quoth he) and cover your bodie, that I may deliver unto you the charge that I have from the H
» Senate and people of Rome. Where, note by the way, that such Pursivants and Sergeants in
those daies were named Viatores; for that eftsoons they were sent to fetch both Senatours and
Generall captaines out of the fields where they were at worke: but now, see how the times bee
chaunged! They that doe this businesse in the field, what are they but bondslaves fettered, con-
demned malefactours manacled, and in one word, noted persons and such as are branded and
marked in their visage with an hot yron? Howbeit the Earth, whome wee call our Mother, and
whome we would seeme to worship, is not so deafe and senslesse, but she knoweth well enough
how she is by them deprived of that honour which was done in old time unto her: in so much as
we may well weet, that against her will she yeeldeth fruit as she doth; howsoever wee would have
it thought, by these glorious titles given unto her, that shee is nothing displeased therewith, I
namely, to be laboured and wrought by such vile and base hirelings. But wee forsooth doe mar-
veile, that the labour of these contemptible bondslaves and abject villaines doth not render the
like profit, as that travaile in former times of great Captains and LL. Generals. And in verie
truth, even among other forreine nations, it was counted a princelike profession in deed, to bee
able for to give rules and directions about Husbandrie: for so we may see, that both kings have
studied this argument, as namely *Hiero*, *Philometor*, *Attalus*, and *Archelaus*: and also martiall
captaines, to wit, *Xenophon*, and *Mago* the Carthaginian. As for *Mago* verily, our Senat did him
that honour after Carthage was woon, that in sacking it and giving away among divers LL. of
Affricke, the Libraries there found; they thought good to reserve onely 28 volumes of his, and
penned by him as touching Agriculture, and to have them translated into the Latine tongue K
(notwithstanding that *M. Cato* had alreadie beforetime put out in writing and set forth certaine
rules and precepts therof;) giving order for this Translation, to those that were well seen in the
Punicke or Carthaginian language: in which businesse, *D. Syllanus* a Romane gentleman of a
right worshipfull house, went beyond all others. As for great schollers and men of profound
and deepe learning, a number there were besides that travailed in this matter, whome wee have
named alreadie in the forefront; and eftsoons shall mention in the discourse of this volume. In
which raunge we must nominate not unthankfully among the meanest writers, *M. Varro*, who be-
ing fourscore yeeres old and one, thought it not amisse to compile a speciall booke and treatise
of Husbandrie. L

Chap. iiii.

The manner of Husbandrie in auncient time.

LAte it was ere the Romans began to set their minds upon Vines and Vineyards: for at first
they tilled only corne fields for very necessitie, even as much as might suffice to serve the
citie. The order and manner whereof, I will set in hand to treat of; not after a vulgar and
common sort, but according to my usuall manner hitherto, more soundly: as having sought
out with all care and diligence, not only the ancient practise in times past, but the inventions al-
so of late daies; and withall, searched into the causes and reasons of every thing, & found them M
out. My purpose is besides, to speake in this treatise of the fixed Starres, their rising and setting,
their apparition and occultation, togither with their influences, as they are undoubtedly obser-
ved and seen here upon earth. And this, my meaning is to doe after a plaine and familiar sort: for
as much as they, who hitherto wrote of this argument, have handled the same so sweetly, and
penned

A penned it with ſo high a ſtyle, as they may ſeeme to any man for to have written bookes for Oratours to read, rather than to the capacitie of plaine husbandmen for to practiſe. Firſt and foremoſt therefore, I will for the moſt part deale by Oracles, that is to ſay, ſententious Sawes, for to determine this queſtion in hand: concerning which, there are as many to be found in number, and thoſe as true in effect, as in any other part and profeſſion of this our life whatſoever. And leaſt any man ſhould thinke it ſtrange, that I call theſe rules of Husbandrie, Oracles: who would take them for leſſe, conſidering how they proceed from Time, a god moſt certein, and are delivered and approoved by Experience, the trueſt prophet of all others. And begin I will with *Cato* firſt.

CHAP. V.

B *The praiſe and commendation of Husbandmen: what things are to be required in the purchaſing or taking to ferme of houſe and land.*

THe children (ſaith *Cato*) that are begotten by Husbandmen, proove moſt valiant, the hardieſt ſouldiers, and ſuch as thinke leaſt harme of all others. In buying of land, take heed "
you be not too hot and ægre upon the purchaſe. In the husbanding of ground, ſpare for "
no paine & travell; but in the purchaſing therof be you nothing forward: a thing over-bought, "
hath evermore repentance, and had I wiſt, attending upon it. They that are about a purchaſe, "
ought above all, to ſee how the ground is watered, what waies and avenues be about it, & what "
neighbours be neare unto it. Out of every one of theſe points, matters of great importance and "
C deepe concluſions may be picked, and thoſe moſt certein and infallible. *Cato* addeth moreover and ſaith, That there would bee good regard had of the people confining, and other grounds bounding thereupon, whether they bee well liking, faire, and trim to ſee unto? For theſe bee his words, It is a good ſigne (quoth hee) that the ferme is well ſeated and in a commodious quarter, if all about looke well. *Atilius Regulus* (he who during the firſt Punicke warre was twiſe Conſull of Rome) was wont to ſay, That a man ſhould not purchaſe an unholeſome peece of land, were it never ſo rich and fruitfull; nor make choiſe of a barraine ſoile, were it never ſo healthie. Now as touching the healthfulneſſe of a place, a man may not alwaies conclude thereof by the colour and freſh hew of the inhabitants: for many times it falleth out, that thoſe who be uſed to peſtilent places, hold out well and have their health; yea and by their looks bewray no harme that they
D take. Moreover, ſome quarters and coaſts there be, which at ſome times of the yeare ſtand found and healthie enough: but I will count none holeſome, but ſuch as be healthfull all the year long. An ill peece of land is that, which putteth the lord thereof to paine, and with which he is forced to wreſtle for to have his health. *Cato* would have this point eſpecially to be conſidered, That the ſoile of a ferme (ſituate as hath been ſaid) be good of it ſelfe, and fertile: alſo, that neare unto it there be ſtore of labourers: and that it be not farre from a good and ſtrong towne: moreover, that it have ſufficient meanes for tranſporting of the commodities which it yeeldeth, either by veſſels upon water, or otherwiſe by waines upon the land. Furthermore, that the manour houſe be well built, and the land about it as well husbanded. Howbeit, herein I ſee many men to erre much, and greatly to be deceived: for they hold opinion, that the negligence and ill husbandry
E of the former lord, is good for him that ſhall purchaſe land and come after him. But I ſay, there is nothing more daungerous and diſadvantageous to the buyer, than land ſo left waſt and out of heart: and therefore *Cato* giveth good counſell, to purchaſe land of a good husband, and not raſhly and hand over head to deſpiſe and ſet light by the skill and knowledge of another. Who ſaith moreover, That as well land as men (which are of great charge and expence) how gainfull ſoever they may ſeeme to bee, yeeld not much profit in the end to the maſter *de claro*, when all counts be caſt and recknings made. He therfore judgeth, that the Vine yeeldeth the beſt revenue, of all commodities belonging to a ferme: and good reaſon he hath ſo to ſay, becauſe above all things he taketh order to cut off expence as much as may be. Next to it, hee reckoneth Hortyards, ſuch eſpecially as have water at commaund: and good cauſe why, provided alwaies that
F they lie under a good towne ſide. [In the third place he raungeth the Oſier plots, and after them Olive rewes:] then he counteth of medows, which our auncеſtors called Parata, as a man would ſay, Readie and Provided. The ſame *Cato* being asked, What was the moſt aſſured profit riſing out of land? made this anſwer, *To feed cattaile well*: beeing asked againe, What was the next? *Mary* (quoth hee) *to feed in a meane*. By which anſwers hee would ſeeme to conclude, that the

moſt certein and ſure revenue was that, which would coſt leaſt. Howbeit, this is not ſo generall a G
rule, but it may alter according to the diverſitie of places, and ſundrie occaſions occurrent. Hereunto alſo is to be referred another ſpeech of his, That a good husbandman ought to be a ſeller, [and not a buyer:] as alſo, That a man ſhould make ſpeed in his youth, and not delay to plant and ſtocke his ground; but not to build thereupon, before it bee well and throughly ſtored that way: and even then alſo, he ſhould not be forward thereto, but take leiſure ere hee be a builder: for it is the beſt thing in the world (according to the common proverbe) To make uſe and reape profit of other mens follies: provided alwaies, that a mans land bee not over-built, leaſt the expence of keeping all in good repaire, be chargeable and burdenſome. Now when there is a ſufficient and competent houſe builded thereupon, a good husband will uſe to repaire often thereunto, and take pleaſure ſo to doe: and verily a true ſaying it is, That the lords eye is far better for H
the land, than his heele.

Chap. VI.

How to chuſe a convenient place for to build a manour houſe in the countrey, Alſo certein rules obſerved in auncient time, as touching Husbandrie and tilling ground.

IN building upon a mans land, this mean and moderation is commended, That the houſe be anſwerable in proportion to the ground: for as it is a bad ſight to ſee a large domaine and circuit of ground without a ſufficient graunge or home-ſtall to it; ſo it is as great a folly to over- I
build the ſame, and to make a faire houſe where there is not land enough lying to it. Like as there were two men at one time living, who faulted diverſly in this behalfe; to wit, *L. Lucullus* and *Q. Scævola*, for the one was poſſeſſed of faire lands without competent building therto, whereas *Lucullus* contrariwiſe built a goodly houſe in the countrey, with little or no living adjoyning to it: in which regard, checked he was by the Cenſors, for ſweeping more floures than he ploughed lands. Now in building, there would be Art and cunning ſhewed: for even of late daies *C. Marius* (who had been ſeven times Conſull of Rome) was the laſt man that built an houſe within the territorie of the cape Miſenum, and he ſeated it ſo, as if he had pitched and fortified a camp right skilfully; in ſuch ſort, that when *Sylla* ſurnamed *Fælix*, [*i.* Happie] ſaw his manner of building, he gave out and ſaid, That all the reſt in compariſon of him, were blind beetles, and knew neither K
how to build nor to encampe. Well then, a houſe in the country would be ſet neither neare unto a fennie and dormant water, ne yet over-againſt the courſe and ſtreame of a running river. And yet, what ſaith *Homer* beſides to this purpoſe? The aire and miſts (quoth he, and that right truly) ariſing from a great river betimes in a morning before day-light, cannot chuſe but be ever cold and unholeſome. How then? mary if the country or climat be hot, an houſe muſt ſtand into the North; but in caſe the quarter be cold, it ought to affront the South: if the tract bee temperate betweene both, it ſhould lie open upon the Eaſt point, where the ſun riſeth at the Æquinoxes.

As touching the goodneſſe of the ſoile, and namely what ſignes and markes there be of it; although I may ſeeme to have ſufficiently ſpoken alreadie, in the diſcourſe which I had of the beſt kind of ground, yet I am content to ſubſcribe to other tokens thereof delivered by other men, L.
and eſpecially by *Cato* in theſe words following: *When you ſee* (quoth hee) *growing upon any land, ſtore of Walwort, Skegtrees, Brambles, the little wild Bulbous, Crowtoes,* [called otherwiſe our ladies Cowſlips] *Claver-graſſe or Trifoile, Melilote, Oke, wild Pyrries, and Crabtrees; know yee, that theſe doe ſhew a ground good for Wheat, and ſuch like white-corne.* So doth alſo the blacke mould and that of aſhes colour, teſtifie no leſſe. Where there is ſtore of chalke or plaſtre, the ground is not ſo fit for corne; for all kind of chalke doth heat over-much, unleſſe the ſame be very leane. The like doth ſand alſo, if it be not paſſing fine and ſmall. And the effects aboveſaid are much more ſeene in the plaines and champaine vallies, than upon the hills and mountaines. Our anceſtours in old time thought it a principall point of Husbandrie, not to have overmuch ground about one graunge: for they ſuppoſed more profit grew by ſowing leſſe, and tilling it better: of which M
mind I perceive **Virgil* was. And to ſay a truth, confeſſe we muſt needs, That theſe large enclo-
ſures and great domaines held by privat perſons, have long ſince been the ruine of Italie, and of late daies have undone the provinces alſo thereto belonging. Six landlords there were and no more, that poſſeſſed the one moitie of all Africke, at what time as the Emperour *Nero* defeated

* *Laudat ingentia rura, Exiguum colito.*

and

A and put them to death. Where, by the way, I may not defraud *Cn. Pompeius* of the due glorie answerable to that greatnesse of his, who never in all his life would purchase any ground that butted or bordered upon his owne land. *Mago* thought it no reason, but a very ungentle and unkind part for the buying of land, to sell a mansion house: and in his conceit, it prejudiced much the weale-publicke. And verily this was the principall point that he recommended in the entrance of his treatise and rules set downe for Husbandrie: so as a man might perceive very evidently, that he required continuall residence upon the land. Next to these principles abovenamed, great regard would be had in chusing of good and skilfull bayliffs of the Husbandrie, concerning whom *Cato* hath given many rules. For mine owne part, it shall suffice to say thus much onely, That the lord ought to love his bayliffe very well, and set him next to his heart: but himselfe should not let
B him know so much. Moreover, I hold it the worst thing that is, to set slaves and condemned persons in their gyves and chains, about tilling and husbanding of a ferme: neither do I like of any thing done by such forlorne and hopelesse persons; for lightly nothing thrives under their hand. I would put down one saying more of our ancient forefathers, but that haply it may seem a fond and rash speech, yea and altogither incredible, and that is this, *Nothing is lesse profitable and expedient, than to labour a ground exceeding much, and to overtill it.* *L. Tarius Rufus*, a man of very base and low parentage descended, & yet advanced to the Consular dignitie for his prowesse in feats of armes, was otherwise very thriftie and sparing, after the manner of the old world; insomuch as partly by his niggardise and partly through the liberalitie of *Augustus Cæsar*, hee had gathered good togither amounting to the sum of an hundred millions of Sesterces: all which masse of mo-
C ney, what with purchasing land to land in the Picene countrey, and what with bestowing such a deale of husbandrie upon it, more ywis of a vaineglorie and ostentation, than for any profit that he reaped thereby, he laid forth and spent every whit of that stock; insomuch as hardly he could find any man that would take upon him to be his executour, or to accept simply of the inheritance. What shall we say then? or what good commeth of such houses or lands so chargeable, as that they are like to cost a man his life, and that by famine? I hold therefore, that in all things a meane is best, and bringeth greatest profit in the end. To till and husband ground well, is necessarie; to over-doe the same and to exceed, turneth more to the damage than the profit of the lord, unlesse it were done by his owne children, or to maintain the charge of keeping such hinds as otherwise must be found if they sat still and did nothing: for setting that cause aside, it falleth
D out many times, that the gathering and inning of some harvest (if a man count all the paines employed and the money of the purse) is nothing beneficiall to the master. In like manner, Olives would not alwaies be tended and looked unto overmuch: neither do some grounds require much diligence, but are the worse for such attendance: as may be seen (by report) in Sicily; which is the cause that new commers thither for to be tenants, and to occupie those lands, are many times deceived and put besides their reckoning.

After what manner then shall we proceed in the Husbandrie of our land to most benefit and behoofe? Learne a rule out of this oracle or sententious riddle, which goeth in this forme; *Malis bonis*, [*i.* Cheapest, Best.] But herein, me thinkes, good reason it is, that our old great grandfathers should be defended and excused for holding these straunge and obscure paradoxes; they
E (I say) who by such rules and precepts, tooke great care and paines to instruct us how to live. Would you know then what they meant by this word *Malis*? surely they understood those that were cheapest and stood them in least. The chiefe point of all their providence and forecast, was to goe the nearest way to worke, and to bee at the smallest cost: and no marveile; for who were they that gave out these thriftie precepts? even those, who reproached a victorious Generall (and one who triumphed over the enemie) for having a cupbourd of silver plate weighing but ten pound: those (I say) who if their bayliffs of husbandrie chaunced to die, whereby their lands in the countrey stood void, would make suit to be gone themselves thither, and to returne to their owne fermes, leaving behind them the glory of all their victories by them atchieved: and to conclude, even those who whiles they were employed in the conduct of armies, had their
F grounds looked unto and tilled at the charges of the common-weale, and had no other for their bayliffs than the noble Senators of Rome. From their mouths came these other oracles and wise sentences following: An ill husband is he, who is forced to buy that, which his ferm might affourd him. As bad is that housholder and master of a family, who doth that in the day which might be don by night, unlesse unseasonable weather drive him to it. A worse than either of these is he, who

doth that upon work-daies which ſhould have been done on play daies or idle holidaies: but the G
worſt of all other is he, who when the weather is faire, will chuſe to work rather within cloſe houſe
than abroad in the open field. And here I cannot hold and rule my ſelfe, but I muſt needs alledge
one example out of auncient hiſtories, whereby it may bee underſtood, How it was an ordinarie
matter to commenſe actions and to maintaine pleas in open court before the bodie of the peo-
ple in the caſe of Husbandrie: as alſo in what ſort thoſe good Husbandmen of old time were
wont to defend their owne cauſe when they were brought into queſtion. And this was the caſe.
There was one *C. Furius Creſinus*, late a bondſlave, and newly enfraunchiſed, who after that hee
was ſet at libertie, purchaſed a very little peece of ground, out of which hee gathered much more
commoditie than all his neighbors about him out of their great and large poſſeſſions: whereup-
on he grew to be greatly envied and hated, inſomuch, as they charged him with indirect means, H
as if he had uſed ſorcerie, and by charmes and witch-craft drawne into his owne ground that en-
creaſe of fruits, which ſhould otherwiſe have growne in his neighbours fields. Thus upon com-
plaint and information given, he was preſented and endited, by *Spurius Albinus*, an Ædile Cu-
rule for the time being: and a day was ſet him downe peremptorily for his perſonall appearance
to anſwere the matter. He therefore fearing the worſt, and doubting that he ſhould be caſt to pay
ſome greevous fine; at what time as the Tribes were readie to give their voices, either to acquit
or condemne him, brought into the common place his plough, with other inſtruments and fur-
niture belonging to husbandrie: hee preſented likewiſe in the open face of the court, his owne
daughter, a luſtie ſtrong laſſe and big of bone; yea, and (as *Piſo* telleth the tale) well fed, and as
well clad: he ſhewed there (I ſay) his tooles and plough yrons of the beſt making, and kept in as
good order; maine and heavie coulters, ſtrong and tough ſpades, maſſie and weightie plough- I
thares, and withall his draught Oxen, full and faire. Now, when his courſe came to plead his own
» cauſe before the people, and to anſwere for himſelfe, thus he began and ſaid: My Maiſters (quoth
» he) you that are citizens of Rome, behold, theſe are the ſorceries, charmes, and all the inchaunt-
» ments that I uſe (pointing to his daughter, his Oxen, and furniture abovenamed:) I might beſides
» (quoth he) alledge mine owne travell and toile that I take, the earely riſing and late ſitting up ſo
» ordinarie with mee, the carefull watching that I uſually abide, and the painefull ſweats which I
» daily endure; but I am not able to repreſent theſe to your view, nor to bring them hither with
» me into this aſſemblie. The people no ſooner heard this plea of his, but with one voice they all
acquit him and declared him unguiltie, without any contradiction. By which example verily, a
man may ſoone ſee, that good Husbandrie goeth not all by much expence: but it is paines taking K
and carefull diligence that doth the deed. And hereupon came the old ſaid ſaw, ſo rife in everie
mans mouth, that The only thing to make ground moſt fertile and fruitfull, is the Maiſters Eye.
As for all other rules and precepts of Agriculture, reſpective to this or that peculiar point of hus-
bandrie, I will deliver them in their proper places accordingly. And in the meane time I will not
omit ſuch as be more generall, as they ſhall come into my mind and remembrance. Firſt & for-
moſt, there offereth it ſelfe unto me one above the reſt, whereof *Cato* is the Author, and which of
all others I hold to be moſt profitable and founding to civilitie, to wit, that in all our doings we
» aime at this, To have the love and good will of our neighbors: and that for many and ſufficient
» reaſons by him alleadged, which I ſuppoſe no man will make any doubt of. *Imprimis*, Hee giveth L
» a good caveat, That our ſervitours and people about us be not ſhrewd, but well ordered, and that
» none of our familie be ill diſpoſed to offer any wrong. *Item*, All good husbands agree in this,
» That nothing would be done too late & when the time is overhipt. And againe, That every work
» ſhould have the due & convenient ſeaſon: To the ſame effect there is a third admonition, name-
» ly, That when the opportunitie is once paſt, in vain we ſeeke to recall and recover it. As touching
a rotten and putrified ground, we have at large ſhewed alreadie how much *Cato* doth abhor and
curſe it. And yet he ceaſeth not to forewarne us of it, and beſides, to give us theſe rules follow-
ing. What worke ſoever may bee performed by a poore Aſſe, is thought to coſt little or nothing,
and to be done very cheape. Fearne or Brake will die at the root in two yeares, if you will not ſuf-
fer it to braunch and grow above ground: and this ſhall you hinder moſt effectually, in caſe you M
knap off the head of the firſt ſpring with a wand or walking ſtaffe: for the liquid juice dropping
downe from them, doth kill the root. It is commonly ſaid alſo, that if they be pulled up about the
Summer Sunneſtead, they will not come againe but die: as alſo, if they bee topt, or their heads
whipt off with a reed: or if they be eared up with the plough, ſo as there be a reed faſtened to the

ſhare.

A share. Semblably, for to kill reeds, they give order to plough them up, with some Fearne likewise laid upon the share. A rushie ground must be broken up and turned over & over with the broad spade: but if it be stonie, it would be digged with a mattocke or two tined forkes. Rough grounds and given to beare shrubs, if a man would storke, the best way is to burne them up by the roots. If the place lie low, and be overmoist, the only meanes to make it sound and drie, is to draine away the water by trenching. In case a ground do stand upon chalke or plaister, the ditches or trenches therein should bee left wide open: but if the soile bee more loose and not so fast, they must bee strengthened and kept up with quicke-set hedges, for feare of falling: or else they ought to bee made in such sort, as both the sides thereof bee well bedded and couched, bearing out a bellie aslope, and not digged plumbe downeright. Some would bee closed up above and made very
B streight and narrow, for to run directly into others that are more wide and large: also, if occasion doe so require, the bottome of their channell would bee paved with pebble, or laid with good gravell. As for the mouth and end therof (to wit, for entrance, and issue) they ought both of them to be fortified and underset with two stones at either side, and a third laid crosse over them. Last of all, if a ground run to wood and bee overgrowne therewith, *Democritus* hath taught us the meanes how to kill the same in this manner, Take Lupine flowers, let them be steeped one whole day in the juice of Hemlocke, and therewith besprinckle and drench the roots of the shrubs that overrun the place, and they will die.

Chap. vii.

C

Sundrie sorts of corne, and their severall natures.

NOw that wee have thus shewed the way how to prepare a field for to beare corne, it remaineth to declare the nature of Corne. And to speake generally of all graine, there are two principall kinds therof, to wit, first Fourment, containing under it Wheat and Barley, and such like: secondly, Pulse, comprising Beanes, Pease, Chiches, &c. The difference observed both in the one sort and the other, is so evident and plaine, that needlesse it is for me to use any words thereof. And as for the former kind called Fourment, it is devided also into sundrie sorts, according to the severall seasons wherein they bee sowne. First there is the Winter corne, which being sowed about the setting of the star Vergiliæ, *i.* in November, lieth all winter long in the ground, and there is nourished, as for example, Wheat, Rie, and Barley. Secondly, Summer corne, which
D is put into the earth in Summer about the rising of the foresaid star Vergilia, *i.* the Brood-hen, to wit, in May, namely, Millet, Panicke, Horminum, and Irio [two kinds of graine.] But note that I speake here of the manner used in Italie. For otherwise in Greece and Asia, they sow all indifferently at the retrait or occultation of Vergiliæ. And to come again to our Italie, some grain there is which is sowne there, both in Winter and Summer: as also, you shall have other corne sowed in a third season, to wit, in the Spring. Some there be who take for Spring-corne, Millet, Panicke, Lentils, cich Pease, and the graine wherof *Fourmentie is made. But Wheat, Barley, Beanes, Na- *Alica.
vews, Turneps, and Rapes, they hold for Sementina, *i.* to be sowed at the proper and timely season of seeds, *i.* in Autumne. In that kind of corne which comprehendeth Wheat, there is to be reckoned that graine which serveth for provender and forage, and is sowne for beasts, and namely, that
E which they call dredge or ballimong. Likewise, in the other kind, to wit, of Pulse, the Vetches bee comprised. But that which is good indifferently both for man and beast, is the Lupine. All sorts of Pulse called in Latine Legumina, unlesse it be the Beane, have but one root apeece; and such bee as hard as wood, and full of shoots, and those devided into forked braunches: and the roots of the cich Pease run deepest into the ground. But all other corne under the name of Frumenta, have many small fillets or strings appendant to their roots, and otherwise branch not. As for Barley, it chitteth and begins to shew within seven daies after it is first sowne. All sorts of Pulse appear above ground by the fourth day or the fift at the uttermost. And yet Beanes ordinarily do lie in the ground fifteen or twentie daies. Howsoever in Ægypt all Pulse commeth up by the third day. In Barley, one end of the seed runneth to root downeward, and the other into blade, and that
F *bloumeth first. Now, if you would know which end serveth for the one and the other; certain it *No marvell being sowed before winter.
is, that the bigger and thicker part of the grain yeeldeth root, and the smaller the greene blade. In all other seeds there is no such diversitie, for from one and the same end breaketh out both root and greene blade. All kind of corne carying spike or eare, called Frumenta, shew nothing but the greene blade during winter: howbeit, no sooner commeth the spring, but they begin to grow up

into ſtraw, and to ſpindle upward pointwiſe, I meane all that bee of the Winter kind. But Millet G
and Panicke run up into an hollow ſtem full of knots and joints: and Seſama by it ſelfe into a kex
or hollow ſtemme in manner of fowell and ſuch like. The fruit or ſeed of all graine that is ſowne
or ſet, is contained either within eares, as wee ſee in (bearded) Wheat and Barley, and the ſame
is defended (as it were) with a pallaiſade of eales, diſpoſed ſquare in foure rankes; or, is encloſed
within long cods and huskes, as the Pulſe kind; or elſe lieth in little cups, as Seſame and Poppie.
Millet and Panicke onely put forth their fruit grape-wiſe and openly, without any partitions and
defenſes, ſo as their ſeed is expoſed to the little birds of the aire: for no otherwiſe are they defen-
ded, than within ſmall skins and thin huls. And as for Panicke, it taketh the name of certain pa-
nicles or chats hanging from the top thereof, whereby the head bendeth and leaneth downward,
as if it were weake and wearie of the burden. The ſtem or ſtalke therof groweth ſmaller and ſmal- H
ler, and pointed upward: inſomuch, as by little and little it runneth up in manner of a little ſprig
or ſion, and there you ſhall ſee a number of ſeeds or graines cluſtered together thicke, inſomuch
as they are ſometimes bunched with an head a good foot long. As touching the Millet, the head
thereof bearing ſeed round about, is bent likewiſe and curbed, beſet alſo with fringes (as it were)
of hairie fillets. But to returne to Panicke againe, there be ſundrie ſorts thereof: for ſome of it is
found with a tuft or bunch, from which depend certain ſmall cluſtered chats or panicles, and the
ſame alſo hath two knaps or heads, and this is called Mammoſum: as one would ſay, the Panicke
with bigs or dugs. Moreover, you ſhall have Panicke ſeed of ſundrie colours, white, blacke, and
red, yea, and purple. Of Myll or Myllet, there be diverſe ſorts of bread made in many places; but
of Panicke it is not ſo common: howbeit, there is no graine more ponderous and weightie than I
it, or which in the ſeething or baking ſwelleth and riſeth more; for, out of one Modius or pecke
thereof, there is ordinarily made ſixtie pound of dough for bread. Moreover, take but three ſex-
tares or quarts of it being ſteeped, and it will yeeld a meaſure called Modius of thicke grewell or
* i. Turkiſh Miller. batter, called in Latine Puls. It is not fully tenne yeares, ſince there was a kind of *Millet brought
out of India into Italie, and the ſame was of colour blacke, the ſeed or graine in quantitie big and
faire, and for ſtem like unto a reed. It riſeth up in height ſeven foot: the ſtalkes are mightie and
great, ſome call them Lobæ or Phobæ. Of all ſorts of Corne it is moſt fruitfull & yeeldeth grea-
teſt encreaſe: for of one graine a man ſhall have three ſextars or quarts againe. But it loveth, yea
and ought to be ſowne in a moiſt ſoile.

Moreover, ſome kinds of ſpiked corne begin to ſpindle and gather eare at the third joint: o- K
thers at the fourth: but there it lieth as yet hidden and encloſed. Now as touching theſe joints,
Wheat beareth uſually foure. Beere Barley ſixe, and the common Sprit Barley eight, which is
well to be conſidered: for no corne uſeth to ſpier before it be fully knotted or jointed in manner
aboveſaid. And ſo ſoone as the ſaid ſpire ſheweth ſome hope of an eare, within foure or five daies
after at the moſt, they begin to bloume: and in as many daies ſpace, or little more, they will have
done, and ſhed their flowres. And yet I muſt needes ſay, that all ſorts of Barley are a ſeven-night
at the utmoſt in ſo doing. *Varro* ſaith, that in foure times nine daies this kinde of corne com-
meth to perfection: but it ought to ſtay nine moneths before it be ripe and readie for to be
reaped, or mowed downe. As for Beanes, after they be ſet or caſt into the ground, firſt they put
forth leafe, and afterward ſtalke, that ſhooteth up even without any partition of joynts or knots L
betweene. All other pulſe, beſides the Beane, have a more ſolide and woodie ſubſtance in their
ſtraw. Of which, the Cich peaſe, the Ervile, and Lentils, do ſpread forth in branches. And ſome
of them runne ſo low, that they creepe along the ground, unleſſe they be borne up and ſuppor-
ted with ſome props, as for example, Peaſe: which helpe, if they miſſe, they proue the worſe for
it. Of all manner of pulſe, the Beane alone and Lupine beare but one ſingle ſtalke a peece: the
reſt do branch into very ſmall ſprigs or tendrels. Howbeit none of them, but their ſtalke or ſtraw
is fiſtulous and hollow, in manner of reedes. Some pulſe put out leaves preſently from the roote:
others againe from the top or head only: Wheate and Barley both the one and the other: and
what corne ſoever ſtandeth upon a ſtalke, beareth one leafe in the head or top thereof. But the
leaves of Barley are rough, whereas in other corne they be ſmooth. Contrariwiſe, Beanes, Chi- M
ches and Peaſe, have many leaves. In Spiked corne, the leafe reſembleth that which groweth to
reedes: in Beanes they be round, and ſo likewiſe in the moſt kinds of pulſe. Howbeit, in Peaſe and
Ervile we ſee they be ſomewhat longer. The leaves of Faſels or Kidney beanes are ribbed and full
i. Turkiſh corne. of veines: of Seſama and *Irio, they be red and reſemble blood. The Lupines onely and the

Poppies

A Poppies doe ſhed their leaves. All pulſe is long in the bloome, and namely, Ervile and the Cich peaſe: but Beanes continue longeſt, even for the ſpace of fortie daies togither. Howbeit, every ſingle ſtalke beareth not bloume ſo long: but thus it is, as one hath done and given over, another beginneth afreſh. Neither bloumeth the whole field all at once, as ſpiked corne doth. Alſo, all kinds of Pulſe doe cod at ſundrie times, and not upon the ſame day: beginning firſt at the bottome, and ſo likewiſe the flower riſeth up higher by little and little. All corne growing in ſpike or eare, ſo ſoone as it hath done blouming, waxeth big and ſtrong, and commeth to the maturitie within fortie daies at the fartheſt, ſo doe Beanes alſo: but the cich peaſe receiveth her full perfection in very few daies: for from the time that it was firſt ſowed, it groweth to bee ripe in fortie daies. Myllet, Panicke, Seſame, and all Summer corne, have their full ripeneſſe fortie
B daies after their blouming. But herein there is great diverſitie, according to the clime and the ſoile: in which reſpects corne ripeneth ſooner or later. For in Ægypt, Barly is readie to be reaped in the ſixt month after it was ſowed, and Wheat in the ſeventh: but in the region of Hellas in Greece, the Barley tarieth ſeven months; & in Peloponneſus or Morea, eight. As for Wheat and ſuch like hard corne, longer it is ere it be ripe and ready for the ſycle. All corne that groweth aloft upon a ſtalke or ſtraw, beareth the graines arraunged ſpike-wiſe, and as if they were plaited and braided like a border of haire. In Beane ſtalkes, and other ſuch like Pulſe, the cods grow in alternative courſe, ſome on the right ſide, others on the left, in order. Wheat & ſuch like ſpiked corne, withſtand the Winter cold better than Pulſe: but theſe yeeld a ſtronger food, and fill the bellie ſooner. Wheat, Rie, and ſuch like graine, are well lapped within many tunicles. Barley for the
C moſt part lieth bare and naked: ſo doth Arinca, [*i.* a kind of Rice or Amel-corne] and Oats eſpecially. The ſtraw of Wheat and Rie is commonly taller than that of Barley. But the eiles of Barley are more rough and prickie than thoſe of the other. Pol-Wheat, both red and white, yea, and Barley alſo is threſhed and driven out of the huske upon a floore; and being thus threſhed clean and pure, it is either ground or ſowne againe, without any parching or drying in a furnace. Contrariwiſe, the Beare corne or bearded Wheat, Far, Millet, and Panicke, cannot poſſibly be made cleane, unleſſe they be firſt ſendged and ſo dried. Theſe ſorts of graine therefore uſe to bee ſowed raw and rude with their very huls: like as the Beare corne or bearded Far, men are wont to keepe ſtill encloſed within the huske againſt ſeed time, and never parch or drie it at the fire. Of all the ſorts of graine before rehearſed, Barley is the lighteſt; for a Modius or pecke thereof ſeldome
D weigheth above fifteene pounds: whereas the like meaſure of Beanes poiſeth two and twentie. The bearded corne Far is yet more ponderous than it: and Wheat more than all the reſt. In Ægypt they uſe to make certain fourmentie meat or naked groats of a kind of Rice or white Amel-corne, called Olyra; which is among them holden for the third ſort of Spike corne. In Gaule likewiſe they have a kind of fourmentie corn or gurts by themſelves, named in their language Brance, and with us in Italie and about Rome, Sandalum: this graine is of all others moſt neat and faire, and this ſingular propertie it hath beſides different from the reſt, That ordinarily in every meaſure called Modius, it yeeldeth more bread by foure pound weight, than any other corne husked and dreſſed in manner aforeſaid. *Verrius* reporteth, That the people of Rome for three hundred years together, uſed no other food than the groats made of common Wheat. And as touching
E Wheat, there be many ſorts thereof, diſtinguiſhed by the names of the regions and countries where they be found growing. Howbeit, for my part I thinke verily, that there is no Wheat in the world comparable to ours here in Italie, for it ſurpaſſeth all others both in whitenеſſe and alſo in weight: by which two markes eſpecially, as it is knowne from the reſt, ſo it is reputed for the verie beſt. And yet if you take the Wheat growing in the mountaine countries of Italie, the beſt haply of forraine regions may match it, and that is the Wheat of Bœotia; the principall of all others, next to it, is that which groweth in Sicilie; and then that of Affricke may bee raunged in the laſt place: in a third ranke is to be reckoned the Thracian and Syrian Wheat; and after them the Ægyptian, in regard of their weight that it carieth. Now theſe degrees of weight wee gather by the proportion aſſigned to champions and wreſtlars, whoſe allowance was much like to the liurie
F given to labouring horſes, and as much in manner would their paunches both require and receive: for according as they could eat of the one ſort more meaſures than of the other, *ſo aroſe theſe diſtinct degrees in the weight aboveſaid. The Greekes make great account of the Wheat growing by Pontus, and highly commend it: but this never came into Italie, neither know wee what it is. The ſame Grecians preferred before all other graine, theſe three ſorts, to wit, Dracon-

* For whereas of the Athenian Wheat, five demie ſextars, (*i.* two quarts and a halfe) were but ſufficient; three would ſerve and content them of the Bœotian, *i.* a quart and a halfe: whereby it was collected howmuch weightier this was than that.

tias,

tias, Strangias, and Selinuſium; eſteeming the goodneſſe of the corne by the thickneſſe and bigneſſe of the ſtraw, and attributing theſe three kinds by that ſigne and argument, to the goodneſſe and riches of the ſoile: and therefore they preſcribed to ſow this corne in a fat and battle ground. But the lighteſt in weight & pooreſt in ſubſtance, becauſe it required much nutriment, they appointed to be ſowed in moiſt places. Of this opinion and judgement were the auncient Greekes, during the reigne of *Alexander* the Great, at what time as Greece was in the flowre and heigth of her glorie, as having the monarchie and ſoveraigntie over the whole world. Howbeit, before his death 145 yeares or thereabout, *Sophocles* the Poet in a Tragœdie entituled Triptolemus, praiſed the Italian wheat above all other; for in effect thus he ſaith word for word:

Et fortunatam Italiam frumento canére candido.

And Italie, a land (I ſay) ſo happie and ſo bleſt,
Where ſtand the fields all hoare and gray, with white wheat of the beſt.

And in very truth, our Italian wheat at this day carrieth the name alone in that regard. I wonder therefore ſo much the more at the moderne Greekes of late time, who made no mention at all of this our wheat. Now at this preſent, of all thoſe kinds of outlandiſh wheat which are tranſported by ſea into Italy, the lighteſt is that which commeth out of Fraunce, and Cherſoneſus, [*i.* the ſtreights of Callipolis] for a Modius or pecke therof conteineth not above twentie pound weight, weigh the very graine it ſelfe as it groweth uncleanſed, huske & all. The Sardinian wheat is more weightie than it by halfe a pound in a Modius. And that of Alexandria exceedeth the French, halfe a pound and * one third part, in every meaſure before-named. And this is the very poiſe alſo of the Sicilian wheat. The Bœotian is yet a full pound heavier: and that of Africk as much and * three fourth parts of a pound more. In Lombardie, and that tract of Italy beyond the river Po, I know full well that a Modius of their wheat weighed 25 pounds; and about Cluſium, ſix and twentie. But be the corne whatſoever it will, this is the ordinarie proportion by the courſe of Nature, That being made into downright houſhold bread for ſouldiers and to ſerve the campe, it ought to weigh as much as it did in corn, & one third part over and above. As alſo this is a rule, That the beſt wheat is that, which to every Modius will take and drinke up a gallon of water, ere it be made dough. And yet ſome kinds of wheat there be, that will yeeld the full weight aforeſaid in bread, and never count the water going thereto, and namely that which commeth out of the Balear Ilands; for a Modius of that wheat yeeldeth in bread 30 pound weight: yet otherwhiles it falleth out in ſome kinds of wheat (being blended two ſorts togither, as namely that of Cyprus and Alexandria, wherof neither exceed little or nothing more than 20 pound weight to the Modius) that the bread made therof will ariſe to the ordinarie proportion: for the Cyprian wheat is not bright, but brown and duskiſh, and therfore maketh a black kind of bread; in which regard the Alexandrian wheat, which is faire and white, is mixed with it: and ſo both togither doe yeeld in bread 25 pound weight. The wheat of Thebes addeth a ſurpluſage thereto of one pound.

* *i.* 4 ounces.

* *i.* 9 ounces.

As for the manner of working and kneading dough, I like not their faſhions who take ſea-water for that purpoſe; as moſt doe that inhabit the ſea coaſts, thinking thereby to ſave the charges of ſalt; for I hold this very hurtfull and daungerous: neither do I thinke, that upon any other cauſe, mens bodies are made more ſubject to maladies, than by this meanes. In Fraunce and Spaine, when the Bruers have ſteeped their wheat or frument in water, and maſht it for their * drinke of divers ſorts, as heretofore hath been ſhewed; they take the * skum or froth that gathereth aloft by the working of the woort, and uſe the ſame in ſtead of leven for to make their bread; which is the reaſon that their bread is lighter and more houved up than any other.

* *Zythum & Curmi.*

* Yeſt or barm.

Moreover, there is a great difference in wheat, by reaſon of the ſtraw or ſtalke that beareth it: for the thicker that it is and more full, the better is the corne taken to be. The Thracian wheat is encloſed and well clad (as it were) with many tunicles or coats: throughly provided by that meanes (and good cauſe why) to reſiſt the exceſſive cold of that climat; which gave the Thracians juſt occaſion alſo to caſt about and deviſe to have a kind of wheat that remaineth upon the ground not above three moneths, by reaſon that the ſnow over-ſpreadeth the face of the earth all the yeare beſides: and verily this kind of corne is come into other parts of the world, and lightly within three moneths after that it is ſowed, you ſhall have it readie to bee reaped: A practiſe

A ctiſe well knowne all the Alps over, and in other cold and winterly regions, where (by the report of the inhabitants) this kind of corne doth wondrous well, and none proſpereth better or groweth more ranke than it. Over and beſides, there is another kind of wheat that putteth up from every root one ſtalke and no more in any place whatſoever: the manner is to ſow it in no ground but that which is light, and it never miſſeth. Alſo about the Thracian gulfe, there is wheat that within fortie daies after the ſowing, will be ripe, and thereupon it is called the Two-month wheat. And would you hear a wonder? there is no wheat more weightie than it; and beſides, it yeeldeth no bran at all. In Sicilie and Achaia both, there is great uſe thereof, and namely among the mountainers of thoſe two countries. Much ſeeking alſo there is after that corne in the Iſland Euboœa, about Caryſtus. See how much *Columella* was deceived, who thought that there was not to
B be found ſo much as any kind of three-moneth wheat: whereas it is plaine, that ſuch hath been of old and time out of mind. The Greekes alſo have a proper name for it, and call it Trimenon. Furthermore, it is reported, that in the countrey Bactriana, there is ſome corne of that bigneſſe, that every graine is full as much as one of the eares of ours.

But to returne againe to our Husbandrie; of all ſpiked corne, Barley is ſowed firſt: but I purpoſe to ſet downe the very juſt time and ſeaſon appropriate to ech kind, according to the ſeverall nature of every ſort, which my meaning alſo is to declare. Meane while I cannot omit, that there is among the Indians, barley both ſowne and alſo wild, whereof they make the beſt bread that they have. As for us Italians (to ſay a truth) we ſet moſt ſtore by Rice, whereof (being husked and cleanſed) we make grotes, like for all the world to thoſe which other men beſides doe make of
C barley husked. The leaves verily that this graine Rice doth beare, be pulpous and fleſhie, reſembling Porret or Leekes, but that they be broader: the ſtem groweth a cubit high, the flower is of purple colour, and the root round like a jem or pearle.

Barley [husked] was the moſt auncient meat in old time, as may appeare by the ordinarie cuſtome of the Atheniens (according to the teſtimonie of *Menander*) as alſo by the addition or ſurname given to ſword-fencers, who upon their allowance or penſion given them in barly, were called Hordearii, [*i.* Barley-men.] The ordinarie drie grout or meale alſo Polenta, which the Greekes ſo highly commend, was made of nothing els but of barley: and the preparing thereof was after ſundrie waies. The manner that the Greekes uſed, was firſt to ſteepe the barley in water, and give it one nights drying; the morrow after, they parched or fried it, and then ground it in
D a mill. Others there be, who (when it is well fried and partched hard) beſprinckle it once againe with a little water, and then drie it before it be ground. There are ſome againe, who take the ears of barley when they are green, beat and drive the corne out, and while it is freſh and new, cleanſe it pure; which done, they infuſe it in water, and while it is wet, bray it in a mortar: then, they waſh it well in oſier paniers, and ſo let the water run from it; and being dried in the ſunne, they pound or ſtampe it againe; and beeing throughly husked and cleanſed, grind it into meale as is aforeſaid. Now when it is thus prepared one way or other, to twentie pound of this barley they put of Line ſeed three pound, of Coriander ſeed halfe a pound, of ſalt about * two ounces and two drams: and after they have parched them all well, they blend them togither and grind them in a querne. They that would have this meale to keepe long, put up into new earthen veſſels all to-
E gither both flower and bran. But in Italie they never uſe to ſteepe or ſoke it in water, but preſently parch it, and grind it ſmall into a fine meale, putting thereto the former ingredients, and the graine of Millet beſides.

* *Acetabulum.*

As for bread of barley, ſo much uſed of our forefathers in old time, the poſteritie that lived after, found to be naught and condemned it: in ſuch ſort, as they allowed it for provender only to feed their beaſts and cattaile with. But in ſtead thereof came up the uſe of * husked barley, to bee ſodden for grewell; ſo highly commended as a moſt nutritive and ſtrong meat; and withall, paſſing holeſome for mans bodie: in ſo much as *Hippocrates* (who for skill and knowledge was the prince of all Phyſicians) hath written one whole booke in the praiſes onely of it. Now the beſt Ptiſana or husked barley, is that which commeth from Vtica. As for that which we have from
F Ægypt, it is made of the flat barley which groweth upon the eare in two rankes or ſides only. *Turannius* ſaith, That in the realms of Granade, Andaluſia, and Africk, the barley whereof the ſaid Ptiſane is made, is ſmooth and naked in the eare without ciles or beard at all. Hee alſo is of opinion, that Rice and the graine Olyra, are all one. The manner of preparing husked barley and making Ptiſana is ſo commonly knowne, that I need not to ſay a word thereof.

* *Ptiſana.*

As for Tragum, it is a kind of Ptisane, made of Wheat, after the same order that the former of Barley. Howbeit, there is none of it to bee found but in Ægypt and Campaine. Touching Starch-flower called Amylum, it may be made of all kinds of wheat, and of the fine corne Siligo, *i.* Winter wheat: but the principall is that which they make of the three-month or Summer wheat. Wee are beholden to the Iland Chios for the invention of Starch: and even at this day, the very best is that which commeth from thence: called it is in Greeke Amylum, because it never came into the mill, nor was ground upon stones. The next to it in goodnesse, is made of a certaine Summer wheat that is nothing ponderous and weightie. The way to make it, is to steepe the wheat within certaine cooperie vessels made of wood, in fresh water so much as will cover it well. But it would not bee forgotten, that the water must bee chaunged five times in a day: and if it were so served also in the night, it would bee the better, to the end, that beeing thus soaked and softened, it might bee well mixed and incorporated, yea, and resolved (as it were) into a kind of past, before that it become soure and bitter. This being done, it must bee laid to drie either upon linnen cloths, or else in twiggen paniers, that the liquor which is therein may draine away: afterwards upon tiles, besmeared over with some leaven, it is poured forth to take the Sunne, to drie and harden against it. After the Chian Starch, that of Candie is most esteemed and liked of: and lastly, that which commeth out of Ægypt. The good Starch ought to bee light, smooth, and even, and withall, fresh made: for those properties hath *Cato* set downe alreadie.

To returne againe unto our Barley: the meale thereof is of great use here with us in Physicke. And that which more is, a straunge effect it worketh in Horses, Asses, and such like labouring beasts: for take Barley when it is dried and hardened at the fire, grind it to meale, reduce it into a paste, and make thereof gobbets: let these bee put downe by a mans hand into their bellie, after the manner of cramming Pullen, and you shall soone see, that this food and manner of feeding, shall make the beasts more strong and lustie, and their flesh more fast and compact.

As for Barley eares, some there bee which have but two rankes or rewes: others againe have more, even to the number of sixe. In the verie graine also there is much difference: for there bee many of them longer than other, lighter, shorter, rounder, whiter, blacker, and last of all, enclining to a reddish or purple colour. This is the worst of all others for to make drie Grout or Polenta: and as for the white, it is best for that purpose, but will not abide any tempestuous or hard weather. And to say a truth, of all corne, Barley is the softest and tendrest, and will least endure any hardnesse: It would not bee sowed, but in a drie and fine ground, laid light, and brought into temper: howbeit, good it must bee, and well in heart. The chaffe and pugs that come of Barley, is supposed to bee as good as the best: but for straw it hath no fellow, especially to make litter of. Moreover, in this regard, Barley of all other graine, is least subject unto blasting, for lightly it is cut downe before that Wheat is mieldewed. And therefore it is, That the wiser sort of Husbandmen in the countrey, sow no more Wheat than will serve for the provision of their house onely. Furthermore, they say, that Barley is sowed with the rake, namely, when the mould lightly covereth it: and therefore it commeth up soonest, and bringeth most encrease and plentie. That which is gathered at Carthage in Spaine, within the moneth of Aprill, is sowed the verie same moneth in Celtiberia, so as in one yeare it yeeldeth two crops. It is no sooner ripe, but they make greater hast to cut it downe, and to inne it, than any other corne: for the straw is verie brittle, and the huske which containeth the graine is as thin and small. To conclude, it is thought to yeeld the better groats if it be taken whiles it is somewhat greene, rather than if it should have the full ripenesse.

Chap. VIII.

That all kinds of Wheat or Fourmentie corne grow not indifferently in everie place. Also, of other sorts of corne in the Levant or East countries.

You shall not find in all places the same kinds of Wheat: and where you meet with the very same, yet they beare not one name, but have sundrie appellations. The red bearded wheat named in Latine Far, and which in old time they called Adoreum; the winter wheat Siligo, and the

A the ordinarie white Fourmentie wheat Triticum, are the commoneſt of all others. And indeed theſe grow all in moſt countries. As for Arinca, it loveth Gaule beſt, and that is the native and proper countrey for it: howbeit, there is plentie thereof in Italie alſo. As for Zea, Olyra, and Typhe, they be ſundrie ſorts of Wheat and Rie peculiar and appropriate to Ægypt, Syria, Cilicia, Aſia, and Greece. The Ægyptians make of their Wheat a kind of flower or ſifted meale, but nothing comparable to the Italian. They that uſe Zea or Spelt, have not the fine red wheat Far. And yet we are ſtored therewith in Italie, and moſt of all in Campaine, where it is called by the general name of Seed. Which name no doubt was given unto it for excellencie and ſingularitie, as ſhall be ſhewed anone more at large. This is the very graine for which *Homer* the Poet called the earth ζειδωρος ἄρουρα, *i.* yeelding the corne Zea: and not becauſe ſhee giveth life to all living
B creatures, as ſome would have to bee meant by that Epithete. Thereof is made alſo a kind of ſtarch, but groſſer than the former, whereof we ſpake before: for no difference is there elſe. Of all kinds of wheat, Far (which is taken for the red, bearded wheat) is moſt hardie & beſt reſiſteth winter cold: it will well abide the coldeſt ſoile that is, and that which is leaſt laboured and tilled: it may endure alſo hote and drie places: it yeelded the firſt food and meat to our auncient forefathers in Latium; as may appeare by this good argument, that publicke preſents and rewards by way of remuneration were given of Far, which they called Adorea, as hath bin ſaid before. Moreover, that the Romanes for a long time lived of a kind of batter or gruell made of meale ſodden, and not of bread, is very evident by old records and Chronicles: for even at this day ſuch thicke gruels or pottage be called Pulmentaria in Latine. And *Ennius*, a moſt auncient Poet, when he
C would expreſſe the famin of a citie that had endured long ſiege, reporteth, That the parents tooke by force from their children their ſops, notwithſtanding they cried pitteouſly for verie hunger. Moreover, even in our time wherein we live, the ſacred and ceremonious feaſts which we obſerve in memoriall of our Birth daies and Nativitie, ſtandeth much upon Furmentie, Gruell, Fritters, and Pancakes. It ſeemeth alſo, that our gruels and ſuch like pottage were as much unknowne to Greekes, as their Polenta or dried groats were ſtrange to us here in Italie. There is no corne more hungrie and greedie of nouriſhment, than Seed [Wheat;] or that draweth more vertue & fat out of the earth for nutriment. As touching the winter graine, called in Latine Siligo, I may be bold to ſay, it is the daintieſt and moſt delicate wheat that is, for whiteneſſe, mildneſſe, and lightneſſe. It agreeth well with moiſt countries, ſuch as Italie is, & that part of Gaule called Comata, *i.* Lum-
D bardie. Beyond the Alpes alſo in Savoy onely, and the territorie of the Meninians, it will endure and hold the owne very well: marie, in other parts of that countrey, within two yeares it turneth into the common wheat. The onely remedie therefore, is to chuſe foorth the heavieſt and weightieſt cornes, and them to ſow.

Chap. IX.

Of Paſtrie, of Grinding, and of Meale.

E THe beſt manchet bread for to ſerve the table, is made of the winter white wheat Siligo: and the moſt excellent workes of paſtrie likewiſe are wrought thereof. And yet in Italie, it paſſeth all the reſt in caſe that of Campaine bee blended with another ſort which groweth about Piſæ: for the wheat of Campaine is redder, but this of Piſæ whiter: and more weightie it is, if it come from a chalkie ground, or have chalke mingled among. Moreover, this is the ordinarie proportion, that of the very pure corne of Campaine wheat, which they call guelded, *i.* wel husked & cleanſed, a meaſure named Modius ſhould yeeld foure ſextars or quarts of fine meale: but of the vulgar and common graine, which is not ſo guelded, five ſextares, and halfe a Modius beſides of boulted flower: and for a courſer houſhold bread, which they call the ſecond bread, foure ſextars of meale, and as many of brans. Alſo of the Piſane wheat, one Modius ſhould yeeld five ſextars of good meale, and the reſt equall to the former. As for the Cloſine and Aretine wheat, in every Modius it anſwereth againe ſixe ſextars of meale, that is to ſay, one more than the
F reſt: otherwiſe they bee all alike. Now if you liſt to raunge and boult it for corke flower to make bread, yee ſhall have of manchet ſixteene pound, of courſe houſhold bread three, & halfe a Modius of brans. But this proportion doth not alwaies hold, for it altereth according to the good or bad grinding upon the mill. For that which is ground drie, rendereth againe more meale: but if it be wet or beſprinckled with ſalt water, it maketh the fairer meale, and fuller of fine flower: and

then

then ſhall yee have more goe away in brans. As for the word Farina in Latine, *i.* Meale, it is deriued of Far, which in old time was the beſt and fineſt red wheat, as may appeare by the very name that it carieth. Finally, a Modius of meale comming of the French Siligo, called Blancheen or Ble-blanch, maketh in bread two and twentie pound weight: but of our Italian, three or foure pound more in bread pan-baked: for what corne ſoeuer it bee, there muſt bee allowance of two pound vantage over and above, for oven-baked bread.

Chap. X.

Of the meale called Similago: of the white flower Siligo. Of other ſorts of meale: and of the manner of baking.

THe beſt meale of that kind, which they call in Latine Similago, is made of the common wheat. If the corne come out of Affricke, it yeeldeth ordinarily for every Modius, halfe ſo much in ordinarie meale, and five ſextares beſides of flower called Pollen. [For that is the Latine tearme which they uſe in the fineſt of the common wheat Triticum, proportionable to that which in the other winter wheat, Siligo they call Flos. And great uſe hereof there is in coppersmiths forges, and in worke-houſes where paper is made.] Over and beſides, of courſer grodgeons for browne bread foure ſextars, and as much of brans. Moreover, the ordinarie proportion goeth thus, that of one Modius of the fine meale Similago, there ſhould bee made 122 loves of bread: and that a Modius of the pure flower of Siligo, ſhould yeeld 117. As touching the price, thus it goeth commonly in the market one year with another, when corne is at a reaſonable and indifferent rate: A Modius of downe right meale is worth *40 Aſſes: but if the meale bee ſifted and raunged from the groſſe brans untill it be Similago, it will coſt eight Aſſes more: and if it be boulted yet finer to the nature of the fine flower Siligo, the over-deale in the price will bee double. Another diſtinction or difference there was knowne of this proportion, when a Modius comming of wheat of Similago, was ſeene to anſwer 17 pound in bread: and as much of wheat flower called Pollen, 30 pound and foure ounces: beſides, for ſecond houſhold bread, two pound and a halfe; and of the courſeſt or browneſt, as many, and ſixe Sextars over and above of brannes.

*i. 2ſh. 6d.

But to returne to our winter white wheat called Siligo, it never ripeneth kindly and all togither, as other corne doth: and for that it is ſo tender and tickliſh, as that no corne will leſſe abide delay and tarie on worſe, great heed muſt be taken thereof; for ſo ſoone as any is ripe, preſently the ſeed ſheddeth and falleth out of the eare. Howbeit, leſſe daunger is it ſubject unto whiles it ſtandeth in the field, than other kinds of wheat, for it beareth alwaies an upright ſpike or eare: neither will it hold and retaine that mildew, which blaſteth corne ſo much, and turneth it into blacke powder. As for that kind of corne which they call Arinca, it maketh the ſweeteſt bread: the graine it ſelfe is more faſt and full than the fine red wheat Far: it carieth a bigger eare, and is beſides more ponderous and weightie. Seldome is it ſeene, that a Modius of this graine maketh full ſixteen pounds. In Greece they have much adoe with it, to threſh it cleane and falter it from the hulls and eales. For which cauſe *Homer* ſaith, That they were wont to give it as provender to horſes, and ſuch labouring garrons: and the very ſame it is which he calleth Olyra. Howbeit this corne in Ægypt goeth out eaſily under the flaile, is better to grind, and withall yeeldeth better, and is more fruitfull. The red wheat called Far, is polled wheat [in Ægypt] and carieth no beard or eales about it. So is the white winter wheat Siligo, ſave only that which is named Laconica.

* Some take it for a kind of Barley, or rather Otos.

To theſe may be adjoyned other kinds alſo, to wit, *Bromos, the poll wheat Siligo, (differing from all the other of that name) and Tragos: ſtraungers all, brought from the Levant or Eaſt parts, and reſembling Rice every one. Typhe likewiſe is of the ſame kind, whereof in Italy and this part of the world, is made that husksd corne which goeth among us for Rice, for it turneth into it. The Greekes have a kind of wheat called Zea or Spelt: and it is commonly ſaid, that both it and Typhæ (conſidering that they uſe to degenerate and proove baſtard) will turne to their kind againe and become wheat, if they be husked before a man ſow them: howbeit this chaunge will not be ſeene preſently, nor before the third yeere. As touching our commmon wheat, there is no graine more fruitfull than it: this gift hath Nature endued it withall, becauſe ſhee meant thereby to nouriſh mankind moſt; for one Modius therof ſowne, if the ſoile be good and agreeable thereto (ſuch as lyeth about Bizacium, the champian countrey of Affricke) wild yeeld an hundred

A hundred and fiftie fold againe. The Procurator generall of that province under *Augustus Cæsar*, sent from thence unto him one plant thereof (a wondrous thing and incredible to be reported) which had little under 400 strawes springing from one graine, & meeting all in one and the same root: as it appeareth upon records by the letters sent, testifying no lesse. Likewise to the Emperour *Nero* he sent 340 strawes out of the same countrey, rising all from one onely corne. But to goe no farther than to Sicilie; within the territorie about Leontium, there have been certaine fields knowne, wherein one graine putteth forth no fewer than a hundred stalkes with eares upon them: and not there onely, but also in many other parts of that Island. And this is ordinarie throughout all the kingdome of Granade, and Andalusia in Spaine. But above all, the land of Ægypt may make boast in rendring such interest to the husbandmen. Moreover, of all those
B kinds of wheat which are so plentifull, there is principall account made of that which braun-cheth; as also of another which men call Centegranum, *i.* the wheat that beareth 100 graines.

To leave this kind of graine, and to come to Pulse: there hath been found in Italie, and goe no farther, one beane stalke laden with an hundred beanes. Touching Summer corne, to wit, Sesama, Millet, and Panicke, we have alreadie spoken. As for Sesama, it commeth from the Indians, whereof they make a certaine kind of oile. The colour of this graine is white. Like unto it there is another grain called Erysinum, which is rife in Asia and Greece: and I would say it were the very same, that with us in Latine is named Irio, but that it is more oleous and fattie; and indeed to be counted a medicinable or Physicall plant, rather than a kind of corne. Of the same nature, is that which the Greekes call Hormium: it resembleth Cumin, and is usually sowed
C with Sesama: howbeit no beast will eat thereof while it is greene, no more than they doe of Irio aforesaid.

To come now to the manner of husking and cleansing of corn: the feat is not so easily done in all, as in some; for in Tuscane, they take the eares of their red wheat called Far, when they be parched and dried at the fire, they pound or bray them with a pestill headed at the nether end with yron, or else fistulous and hollow within, yet bound about with a hoope or ring of yron, and the same withinforth toothed in manner of a starre; so as if they be not headfull in the stamping, the yron-worke at the pestill end will either cut the cornes in twaine, or els bruse and break them cleane. In Italie (for the most part) they use a rude or plain pestill, not headed with yron, to huske and dresse their corne; or els certaine wheels that are turned and driven apace with water, which
D going very swift doe also grind the said corne. But since wee are falne into this treatise concerning husking and grinding of corne, it shall not be amisse for to set downe the opinion and resolution of *Mago* in this behalfe: First, for common wheat he giveth order, that it be well steeped and soked in good store of water; afterwards, to be rid from the hulls and eiles that it hath, in a mortar: which done, it ought to be dried in the sunne, and followed a second time with a pestill. In like manner (saith he) should barley be used: howbeit, two Sextars or quarts of water will be sufficient to besprinkle and wet twentie Sextars of barley. As for Lentils, hee would have them first parched and dried, and then lightly punned or stamped togither with brans: or els to put unto twentie Sextars thereof, a fragment or peece of a broken semeld brick, and halfe a Modius or pecke of sand. Ervile would be clensed or husked as Lentils be: but Sesama, after it hath been
E infused or soked in hote water, hee saith, ought to bee laid abroad a sunning; then to be rubbed hard togither; afterwards to be put into cold water and therewith covered, so as the hulls or chaffs doe flote and swim aloft: which done, to be laid forth a second time in the sunne upon linnen clothes, for to drie. Now if all this be not done one thing after another and dispatched with the more speed and haste, it will soone vinew or catch a mouldinesse, and besides loose the bright native hew, and looke wan and of a leaden colour. Now, say that corne be cleansed and husked, some one way and some another, it is ground afterwards in divers sorts. If the eares be bolted by themselves alone for goldsmiths worke, the chaffe comming thereof is called in Latine, Acus; but if it be threshed and beaten upon a paved floore, eare, straw, and all together (as in most parts of the world they use to doe, for to fodder cattaile or give in provender to horses) then it is tear-
F med Palea: but the refuse or chaffe remaining after that Panicke or Sesama bee cleansed, they call in Latine Appluda, howsoever in other countries it be otherwise named.

To speake more particularly of Millet, there is great store thereof in Campaine, and there they set much by it; for of it they make a kind of white gruell or potage: also the bread thereof is passing savorie and sweet. The Tartarians also and nations in Sarmatia, feed most of this water

gruell made with Millet: as alſo with the crude and raw meale thereof unſodden and unbaked, tempered with mares milke, or els with horſe-bloud that runneth out of their maſter leg-vaines, by way of inciſion made for the purpoſe with the phleame. As for the Æthiopians, they know no other corne but Millet and Barley. Panicke is eaten in ſome parts of Gaule, and principally in Aquitane or Guien: in Piemont alſo, and all about the Po, it is a great feeding, ſo there bee beanes among; for without beanes they cannot skill how to dreſſe any thing for their daily food. The regions that confine upon the Euxine ſea or Pontus, have no daintier meat than that which is made of Panick. To conclude, all Summer corne abovenamed, delight more to grow in moiſt and watery grounds, than to bee wet with ſhowres and raine from above. And yet I muſt needs ſay, that Millet and Panicke care leaſt for water or moiſture, when they begin to put forth their blade. Laſt of all, there is no good husbandman but will forbid to ſow Millet and Panicke either in vineyards, or among trees that beare fruit; being perſuaded, that the ſowing thereof doth eat out the heart of the ground. G H

Chap. XI.

Of Levains: the manner of making bread: ſundrie kinds of bread: about what time Bakers were firſt knowne at Rome: of Steves and Serces, of Raungers and Bulters. Laſt of all, of the Frumentie called Alica.

THe meale of Millet is ſingular good for Levaines, if it be wrought and incorporate in new wine, for ſo it may be kept a whole yeare. The like is made of the better brans of wheat, ſo they be ſmall, fat, and not too near raunged; and the ſame be kneaded in new white wine of three daies old, and then dried in the ſunne. Hereof is made a dough or paſt, and the ſame is reduced into certaine round cakes or Troſches to ſerve for the making of bread; for theſe muſt be ſoked and diſſolved in hote water with the floure of the corne Zea, and therein be ſodden: which done, they uſe to mingle it with the meale and floure to make paſt of, which they hold to be the beſt way of making bread. The Greeks have ſet downe this proportion, allowing to every peck or Modius of meale, eight ounces of levain; and this they thinke to be ſufficient. Now theſe kinds of levains verily cannot be made, but only in time of vintage. But if a man would make levains at any other time, he may take of barly meale tempered with water ſo much as it may be brought into a paſt; and when there be certain lumps or cakes hereof made, weighing two pound apeece, they muſt be baked either upon the hearth under hot embres, or els in an earthen pan over the coles, untill ſuch time as they looke browne and red withall. Afterwards they be put up cloſe covered in pots or ſuch like veſſels, and there remain untill they wax ſower. Now when a man would uſe levain, hereof he taketh what he will, and diſſolveth it as is before ſaid. In old time when they made barley bread, they uſed no other levaine for it but only the meale of Ervile or Cich peaſe; and ordinarie it was, to take two pound thereof for * two pecks and an halfe of meale: but now adaies the order of our huswives is, to make levains of the very ſame meale which is kneaded and wrought into dough, before ſalt be put thereto, which they ſeeth to the conſiſtence of a pulpe or thicke batter, and ſo let it lie untill it become ſowre. And yet commonly they doe not boile their levains, but only reſerve ſome of the paſt or dough, whereof they make their bread the day before. As touching the nature of Levain, certein it is that it proceeded of foureneſſe; like as it is generally held, that they be ſtronger of bodie who feed of levained bread: for in old time it was verily thought, that of the weightieſt and heavieſt kind of wheat, there was made the holeſomeſt bread. I K L

* quinque semodios.

Concerning the ſundrie ſorts of bread that is made, it ſeemeth a needleſſe peece of worke to ſet them downe every one in particular: for ſometimes bread taketh the name of the meats and viands that be eaten therwith: as for example, Oiſter-bread, ſo called for that it was good with oiſters: otherwhiles it beareth the name of ſome daintie cates, as Artolaganus, [i. pancake, fritter, or fine cake-bread.] As for the bread called Speuſticus, [i. Haſtie] it is ſo called, becauſe it was made in haſt. The manner alſo of the baking, giveth denomination to ſome bread; as to Furnaceus panis, which was made in a furnace; to Artoptitius, made in a baking-pan called Artopta: as alſo to that which was baked in an oven. Not long ſince alſo there was a new device of making bread brought out of Parthia, which becauſe the paſt is drawne through water (and yet a ſpungious, light, and hollow ſubſtance it carrieth) they call water-bread: and ſome give it the denomi- M

nation

A nation of Parthicke bread. But howſoever it be, the beſt bread is of the fineſt wheat floure, which hath paſſed through a ſmall tamis bulter. Some countries there be, that knead their dough with milke or egs; others alſo put butter thereto: but thoſe bee ſuch nations as are not troubled with wars, ſince that they can have while to ſet their minds on ſundrie ſorts of paſtrie. The Picenes in times paſt invented a way by themſelves of making bread, with the very matter or ſubſtance of the frumentie Alica; and ſurely that deviſe holdeth ſtill and is much uſed. The manner thereof is this: They take the ſaid frumentie paſt and ſteepe it in water nine daies; on the tenth day they worke or knead it with the juice of Raiſons, to the faſhion of a Parthicke cake driven thin and broad, after this they put it in earthen pots, ſet them in ovens for to frie and bake, that the ſaid pots may there breake in ſunder: and being thus hard baked, it is not to be eaten unleſſe it be ſo-

B ked in ſome liquor, which ordinarily is milke, or mead eſpecially.

There were no Bakers knowne at Rome for the face of 580 yeares after the foundation of the citie, untill the Perſian warre. Before that time every Romane citizen had his owne bread baked at home, and womens worke commonly it was, like as at this day it is in moſt countries: for this appeareth by *Plautus*, who in his Comœdie entituled Aulularia, maketh mention of *Artopta, a baking-pan [which men have uſually in their houſes:] and hereupon is growne much diſpute and controverſie betweene learned men about this Queſtion, Whether that verſe were of that Poets making or no? for certein it is (according to the opinion of *A. Atteius Capito*) that at ſuch mens bourds as kept great houſes and delicate fare, there was no other bread eaten but ſuch as Cookes were wont to make them, after the manner of ſimnels: for Piſtores were thoſe only then

C called, who husked and cleanſed the bearded red wheat named in Latine Far; and other Bakers than they, were there none. Neither had the Romane citizens in ordinarie, any Cookes as their houſhold ſervants, but hired them out of the market whenſoever they had any meat to dreſſe.

*Ego hanc Artopta ex proximo mutuabor puto.

Divers ſorts of ſieves and bulters there be. The Sarce made of horſe haire, was a deviſe of the Frenchmen: the tamis raunger for courſe bread, as alſo the fine floure bulter for mancher, (made both of linnen cloth) the Spaniards invented. In Ægypt they made them of papyr reed and ruſhes. But now that wee are entred ſo far into this matter as touching corne, I thinke it not amiſſe before I proceed any farther, to ſpeak (with the firſt) of the frumentie called Alica, and the manner thereof, being (as it is) ſo excellent and holeſome to be eaten; and which, no doubt, thoroughout all Italy, beareth the name for the very beſt of all corne whatſoever. No queſtion, but

D there is made thereof in Ægypt; howbeit nothing to the other. In Italy, many places there bee where it is to be had, as namely in the territories of Verona and Piſæ: but that of Campaine carieth the price and praiſe above all the reſt: a champion or plaine countrey this is, for the ſpace of fortie miles lying as a vale under the hills and mountaines, ſubject to watery clowds and tempeſtuous winds. The ſoile of this whole tract (to ſpeake directly of the nature thereof and defer no longer) is light and duſtie, if a man reſpect the upper coat thereof, but underneath it drinketh in much moiſture, whereunto apt it is by reaſon of certain fiſtulous poroſities therein, like a pumiſh ſtone: in which regard, the mountains commaunding theſe plaines (ill neighbours otherwhiles) doe it much good and mend the ſoile very well; for many a ſound ſhowre (which ordinarie falleth from the hills) paſſeth and runneth through it, as it were a colander; by means where-

E of, the ground ſtandeth not drenched and ſoked with water, but is thereby more pliable & eaſie to be tilled. Now this ſoile having thus received ſtore of water, doth not yeeld it up againe boiling out at any ſprings, but keepeth and cheriſheth it ſtill within, as it were the radicall and nutritive humour, concocting the ſame to a very good temperature. All the yeere long a man ſhall ſee it ſown and ſtanding with corn, one or other; for the ſame ground beareth one crop of Panick, and two of the red wheat Far: it never reſteth but beareth ſomewhat: for ſay that ſome lands lye fallow between-while, and are not ſowed with corne; they yeeld roſes in the ſpring of themſelves naturally, and thoſe far ſweeter than the garden roſes: ſo fruitfull is it and cannot abide to be idle and do nothing. Hereupon aroſe the proverb of this land of Campaine, *That greater ſtore is there to be found of ſweet perfumes and odoriferous ointments, than of ſimple eyle in other countries whatſoe-*

F *ver*. And looke how much this tract of Campain ſurpaſſeth all other lands in goodneſſe and fertilitie, ſo much excelleth one quarter thereof (called in Latine Laboriæ, and by the Grecks Phlegræum) all the reſt, and goeth beyond it ſelfe. This plaine aforeſaid named Laboriæ, is confined on both ſides with the great cauſies or high waies raiſed by the Conſuls, and thereupon called Conſulares; the one goeth from Puteoli, the other from Cumes, and lead both to Capua.

But to come againe unto our Frumentie Alica, made it is of the graine Zea, which before wee tearmed by the generall name of Seed. This corne for to make Frumentie, is to bee pound in a wodden morter, when it ſhould be cleanſed from the huske: for if a man beat it in one of ſtone, the hardneſſe thereof would bruſe and breake it. The beſt way of cleanſing and husking it, is with a peſtill, ſuch as bondſlaves and priſoners do uſe to ſtampe withall, and to worke by taske for their puniſhment: in the forepart thereof it hath a circle of yron, made in faſhion of a round Boxe: wherewith after the corne is drawne naked out of the huske, the very ſame inſtrument ſerveth againe to ſtampe and bruſe the white marrow and flower thereof within. And thus by this meanes there be three ſorts made of Alica or Frumentie aforeſaid. The fineſt, which is the beſt: the meane, which is the ſecond: and the greateſt or groſſeſt, which the Greekes call Aphærema. G

When all this is done, yet have they not that whiteneſſe of their owne, for which they are ſo much eſteemed; as namely, thoſe that come now adaies from Alexandria, which are taken to be the beſt and to excell all other. And therefore there is chalke (a wonderfull thing to be ſpoken) mingled afterwards and incorporate therewith, and ſo by that meanes the Frumentie becommeth white and tender withall. Now this chalke or plaſtre is found between Puteoli and Naples, in a little hill which thereupon is called Leuco-gæon, [i. white earth.] And in truth when *Auguſtus Cæſar*, late Emperor of Rome, erected a colonie at Capua, and peopled it with Romane cittizens, he aſſigned unto the Neapolitanes (by vertue of a decree, now extant) an yearly rent or penſion of twentie thouſand deniers to bee paied out of his owne treaſure, in regard of the chalke which came from the hill aforeſaid, being within their territorie and ſiegnorie. He rendereth alſo a reaſon inducing him thus to doe, Becauſe the inhabitants of Capua, alleadged, that they could not make good Alica or Frumentie without that minerall of chalke. In the ſame hill there is alſo found a Brimſtone mine, and out of the veines thereof, fountaines ſpringing, called Oraxi, the water whereof is ſingular good to cleare the eies, to cure and heale greene wounds, and to faſten the teeth that are looſe in ones head. H I

As touching a baſtard kind of Frumentie, it is made verily for the moſt part of a Spelt or Zea in Affricke, which there doth degenerate & grow out of kind. The eares that it carieth, are broader and blacker than the other, and the ſtraw is but ſhort. They uſe to cleanſe and huske it by ſtamping or braying it together with ſand: and for all that deviſe, much adoe they have to fetch off the huls and huskes wherein the graine lieth encloſed: now when it is thus cleanſed and naked, it is not paſt halfe as much in meaſure as it was before. Which done, there is a fourth part of plaſtre ſtrewed and mingled among: and when all is together, they ſift it downe through a meale ſieve. That which remaineth behind and paſſeth not through, is the groſſeſt part thereof, and is called in Latin Exceptitia. That which was thus ſearced, is driven again through a narrower and finer ſieve, and theſe groats that tarie in the raunger, they call Secundaria. In like manner do they a third time, ſearcing it through ſo fine a ſieve, that nothing can paſſe but the very ſmall ſand and pouder: and this laſt kind of Frumentie gurts they name Cribraria. Another way there is beſides in all places practiſed, to ſophiſticate and counterfeit the right Frumentie groats indeed: They chuſe out of our common Wheat, the faireſt, fulleſt, and whiteſt graines, which being halfe ſodden in an earthen pot, they lay out afterwards in the Sunne, untill they be as drie as they were at firſt: which done, they lightly ſprinckle ſome water over, and then bruſe them in a quearne mill. Fairer Frumentie groats be made of Zea than of Wheat, and called it is Granum or Granatum, although in Alica that be counted a fault. To conclude, they that will not uſe chalke, doe blaunch and make their Frumentie white by ſeething milke with it, and mingling all together. K L

Chap. xii.

Of Pulſe.

IT followeth now to write of the nature of Pulſe, among which, Beanes doe challenge the firſt ranke and principall place: for thereof men have aſſaied to make bread. The meale of Beanes is called in Latine Lomentum. There is a not a Pulſe weigheth more than it, and Beane meale maketh every thing heavier wherein it is. Now adaies they uſe to ſell it for provender to feed horſes. And indeed Beanes are dreſſed and uſed many waies, not onely to ſerve all kind of foure-footed beaſts, but alſo for man eſpecially. For in moſt countries it is mingled with Frumentie corne: and namely with Panicke moſt of all, whole and entier as it is: but the more delicate and M

daintie

A daintie way is to breake and bruiſe it firſt. Moreover, by auncient rites and religious ceremonies; at the ſolemne ſacrifice called Fabaria, the manner was to offer unto certain gods and goddeſſes Beane cakes. This was taken for a ſtrong food, being eaten with a thicke grewell or pottage; howbeit, men thought that it dulled a mans ſences and underſtanding; yea, and cauſed troubleſome dreames in the night. In regard of which inconveniences, *Pythagoras* expreſſely forbad to eat Beanes: but as ſome have thought and taught, it was becauſe folke imagined; that the ſoules of ſuch as were departed, had reſidence therein: which is the reaſon alſo, that they be ordinarily uſed and eaten at the funerals and obſequies of the dead. *Varro* alſo affirmeth, That the great Prieſt or Sacrificer called the Flamine, abſtaineth from Beanes both in thoſe reſpects aforeſaid, as alſo for that there are to be ſeene in the flower thereof certaine letters or characters that ſhew heavi-
B neſſe and ſignes of death. Furthermore, there was obſerved in old time a religious ceremonie in Beanes: for when they had ſowed their grounds, their manner was, of all other corne to bring backe with them out of the field ſome Beanes, for good lucke ſake; preſaging thereby, that their corne would returne home againe unto them; and theſe Beanes thereupon were called in Latine Refrivæ, or Referivæ. Likewiſe in all port-ſales it was thought, that if Beanes were entermingled with the goods offered to be ſold, they would be luckie and gainefull to the ſeller. This is certain, that of all fruits of the earth, this onely will bee full and ſound when the Moone is croiſant, notwithſtanding it were gnawne and halfe eaten with ſome thing before. Set them over the fire in a pan with ſea water or any other that is ſaltiſh, they will never be throughly ſodden. They are ſet or ſowne before the retrait of the Starre Vergiliæ, [*i.* the Brood-hen] the firſt of all other Pulſe,
C becauſe they might take root betimes & prevent the Winter. And yet **Virgill* would have them to bee put into the ground in the Spring: like as the manner is in Piemont and Lumbardie, all about the river Po.

**Vere fabis ſatio, Georg. lib. 1.*

But the greater part of good Husbandmen are of this opinion, That the ſtalke or ſtraw of Beanes ſowne earely or ſet betimes, are better than the very fruit it ſelfe, which hath had but three moneths being in the ground. For the cods and ſtalkes onely of Beanes are paſſing good fodder and forrage for cattell. Beanes when they are blouming, and in their flower, deſire moſt of all to be refreſhed with good ſtore of raine: but after they have done flouring, they care for little. The ſowing of this Pulſe in any ground, is as good as a mucking unto it, for it enricheth it mightily. And therefore towards Macedonie and about Theſſalie, the manner is when Beanes begin to
D bloſſome, for to turne them into the ground with the plough. Beanes come up and grow in moſt places, of their own accord without ſowing; and namely, in certain Iſlands lying within the Northerne Ocean, which our countreymen thereupon have named Fabariæ. Semblably, they grow wild commonly throughout all Mauritania, but exceeding hard and tough they bee, and ſuch as poſſibly cannot be ſodden tender. There are likewiſe in Ægypt to be found Beanes, with a ſtalke beſet full of prickes or thornes: which is the cauſe that Crocodiles will not come neare them, for feare of hurting their eyes. The ſtemme of theſe Beanes is foure cubites in height, but exceeding thicke and big withall: tender it is notwithſtanding, and ſoft, running up even and ſmooth without any knots or joints at all: it carieth a head in the top like Chesboule or Poppie, of a roſe red colour: wherein are contained not above 30 Beanes at the moſt. The leaves be large: the fruit
E it ſelfe (or the Bean) is bitter in taſt, and the ſmell not pleaſant: howbeit the root is a moſt daintie meat, which the inhabitants doe eat as well raw as ſodden; and like it is to reed and cane roots. Theſe grow in Syria and Cilicia, as alſo about the lake Torone, within Chalcis.

Much like to the proverbe here in England, *March Ote-ſtraw is better than Aprill Otes.*

As touching other Pulſe, Lentils be ſowed in November, and ſo are Peaſe, but in Greece only. Lentils love a light ground better than a fat and heavie: they like alſo drie and faire weather. Two kinds thereof bee found in Ægypt: the one more round and blacke than the other; the reſt bee faſhioned as common Lentils. According to the manifold uſe and diverſe effects of Lentils, there have ſundrie names and denominations been borrowed from them: for I find in writers, that the eating of Lentils maketh men to bee mild and patient, whereupon they bee called Lenti and Lenes. As for Peaſe, it ought to be ſowed in warme places lying well upon the Sunne,
F for of all things it cannot abide the cold. Which is the cauſe, that in Italie and in other countries where the clime is rough and hard, they are not ſowne uſually but in the Spring, and folke chuſe a gentle, light, and looſe ground.

To come now to the Cich peaſe, the nature of it is to be nitrous and ſaltiſh, and therefore it burneth the ground where it groweth. Neither muſt it be ſowne, unleſſe it were well ſteeped and

ſoked in water the day before. Many ſorts there be of theſe Cich peaſe, different in bignes, form, colour, and taſt: for there are both blacke and white, and thoſe in faſhion ſhaped like to a Rams head, and thereupon they are ſo called. There is a ſecond kind named Columbinum, or by others Venerium. Theſe are white, round, light, leſſe than the former Rams-head Ciches, which men do eat ceremoniouſly with great religion, when they meane to watch throughly all night long. There is a little Cich peaſe alſo, called Cicercula, made cornered and otherwiſe uneven, like unto a Peaſe. But the beſt Ciches and moſt pleaſant are thoſe that come neareſt in reſemblance to the Erviſe: and generally the red kind and the black are more firme and faſt than the white. Cich peaſe grow within round cods, whereas other Pulſe be contained in long and flat, according to the forme and figure of the ſeed which they hold: Peaſe by themſelves have a long round cod in forme of a Cylinder. G

The Pulſe called Phaſeoli, [i. Kidney Beanes] uſe to be eaten cod and all together. Theſe may be ſet or ſowne in what ground you liſt, from the Ides of October to the Calends of November. Finally, all kinds of Pulſe, ſo ſoone as they begin to ripen, are to be gathered or plucked haſtily: for ſtay never ſo little, they leape out of their cods and ſhed, and being once fallen, they lie hidden in the ground; like as the Lupine alſo. H

Chap. xiii.

Of Rapes or Navewes: of Amiternium Turneps.

NOw let us proceed and paſſe to other matters: & yet in this diſcourſe, it were meet to write ſomewhat as touching Rapes or Navewes. The Latine writers, our countreymen, have ſlightly paſſed by and touched them onely by the way. The Greekes have treated of them ſomewhat more diligently, and yet among pot-hearbs and woorts growing in gardens; whereas indeed according to good order they would be ſpoken off immediatly after Corne, or Beanes at leaſt wiſe, conſidering there is not a plant of more or better uſe than is the Rape or Navew. Firſt and formoſt, they grow not onely for beaſts of the earth and the Foules of the aire, but alſo for men. For all kinds of Pullen about a Farme-houſe in the countrey, doe feed upon the ſeed thereof as much as of any thing elſe, eſpecially if they bee boiled firſt in water. As for foure-footed beaſts, they eat the leaves thereof with great delight, and waxe fat therewith. Laſt of all, men alſo take as great pleaſure and delight in eating the leaves and heads of Rapes or Navewes in their ſeaſon, as they doe of young Coly-Flories, Cabbages, or any tender crops of hearbes whatſoever: yea, when they are faded, flaggie, and dead in the Barne, they are eſteemed better, than being freſh and greene. As for Rapes or Navewes, they will keepe long and laſt all Winter, both within the ground where they grew: and beeing well wintered, they will continue afterwards out of the earth lying abroad even almoſt till new come: ſo as they yeeld men great comfort to withſtand all hunger and famine. In Piemont, Lumbardie, & thoſe countries beyond the Po, the people make the moſt account of gaine by gathering Rapes, next to wine vintage and corne harveſt. It is not choiſe and daintie, of the ground where it will grow: for lightly it will proſper where nothing els can be ſowed. In foggie miſts, hard froſts, and other cold weather, it thriveth paſſing wel, & groweth to a wonderfull bigneſſe. I have ſeene one of their roots weigh above forty pounds. As touching the handling and dreſſing of them for our table, there be many waies and deviſes to commend and ſet them out. Preſerved they may be untill new come, eſpecially condite with ſharp and biting Senvie or Muſtard ſeed. Moreover, our Cookes know how to give them ſix other colours beſides their owne which is pure and naturall; they have the caſt to ſet even a purple hew upon them. And to ſay a truth, there is no kind of viands beſides that, being thus painted & coloured, hath the like grace. The Greeke writers have devided them by the ſexe, and thereby made two principall kinds thereof, to wit, the male and the female. Nay, more than that, out of one and the ſame ſeed, according as it is ſowed, they can make male or female, whether they pleaſe. For if they ſow thicke, and chuſe thereto a hard and churliſh ground, it will prove of the male kind. Alſo, the ſmaller that the ſeed is, the better is it eſteemed. But of all Rapes male or female, three eſpeciall ſorts there be and no more. For ſome roots ſpread flat and broad, others are knit round like a ball; the third ſort which runneth downe into the ground with a long root in manner of a Raddiſh, they call the wild Rape or Navew: this beareth a rough leaſe and full of angles or corners; the juice that it yeeldeth is ſharpe, hote, and biting, which being gathered in harveſt time & reſerved, I K L M

mundi-

A mundifieth the eies, and cleareth the ſight, eſpecially being tempered with breaſt-milke. If the weather be cold, they are thought not onely to thrive in bigneſſe of the root, but alſo to proove the ſweeter, whereas contrariwiſe in a warme ſeaſon they run up all to ſtalke and leafe. The beſt ſimply are thoſe that grow in the Nurſine territorie. For they are ſold by the weight: and everie pound is worth a Romane Seſterce, yea, and otherwhiles twaine, if there be any ſcarcitie of them. Next to theſe in goodnes be thoſe that come out of Algidum. Thus much of Rapes or Navews.

As for the Turneps of Amiternum, they bee in a manner of the ſame nature that the Rapes aforeſaid, and cold they love as well. Sowne they are before the Calends of March: & four quarts of their ſeed will take up a whole acre of ground. The beſt Husbandmen, and ſuch as are more exquiſite in their practiſe of Agriculture, give order, That the ground for Turneps ſhould have
B five tilthes, whereas Rapes or Navewes are content with foure: but both the one & the other had need of a ſoile well enriched with dung or compoſt. By their ſayings alſo, Rapes will proſper the better and come up thicker, if they be ſowed in their huls, chaffe and all together. Moreover, they would have the ſeeds-man to be naked when he ſoweth them, and in ſowing to proteſt, That this which he doth is for himſelfe and his neighbours, and withal to pray as he goeth. The proper ſeaſon for the ſeednes of them both, is betweene the feaſts of the two gods, to wit, *Neptune* and *Vulcane*.

To conclude, there is a ſubtile and curious obſervation that many go by and doe hold, namely this, To marke how many daies old the Moone was, when the firſt Snow fell the Winter next before: for if a man doe ſow Rapes or Turneps, within the foreſaid compaſſe of that time, the
C Moone being ſo many daies old, they will come to be wonderous great, and encreaſe exceedingly. Men uſe to ſow them alſo in the Spring: but then they make choiſe of moiſt and hote grounds.

Chap. xiiii.

Of Lupines.

After Rapes and Turneps, the Lupines have greateſt uſe, and deſerve to be raunged next: for that they indifferently ſerve both men and alſo all foure footed beaſts that be houſed, either whole or cloven. Now for that the ſtalke is very ſhittle in mowing, and therefore flyeth from the edge of the ſyth, the onely remedie therefore (that the mower may catch it) is
D to go to worke preſently after a good ſhowre. And verily there is not a plant growing upon the earth (I meane of ſuch as are ſowne of ſeed) more admirable than the Lupine, in regard of the great amitie and ſympathie betweene the earth and it. Looke how the ſunne keepeth his courſe in our Horizon above, ſo doth it turne and goe withall; in ſo much as the husbandmen of the countrey go by no other clocke to know how the day paſſeth, in cloſe and clowdie weather, than this obſervation. Moreover, it hath three ſeaſons of blowming: it loveth the earth well, but yet willingly it would not be covered over with mould: for this is the onely ſeed that is ſowne upon ground without any ploughing or digging: it would grow to chuſe, in a moſt gravelly, drie, and ſandie ſoile; and in no caſe can it abide any tending or husbandrie about it: ſo affected is it to the earth, that caſt it upon any rough ground, among buſhes, leaves, briers and brambles, it will chit
E and ſpurt nevertheleſſe, and never lin till it take root within the earth. If Lupines be ſowed either in vineyards or upon corne lands, they enrich the ſame and make the ground better, as we have before written: and ſo little need have they of dung, that they ſtand in ſtead of the very beſt. To ſay a truth, there is no graine leſſe chargeable to bee ſowne, than it; nay there is none coſteth nought at all, but it; for it needeth not ſo much as to be brought into the field: and why? it ſoweth it ſelfe preſently in the ſame field where it grew: and ſhedding as it doth of the owne accord, a man never needs to caſt and throw it upon the land, as other corne. It is firſt ſowne, and laſt gathered: and lightly both theſe ſeaſons fall out in the moneth of September; for if the Seednes prevent not the winter, ſo as it may have good root before it commeth, it will bee in daunger of the cold. Over and beſides, if it chaunce to lie bare and uncovered above-ground, left
F careleſſely without any keeping, and that no rain come upon it preſently for to drive it into the ground, it is ſafe enough and catcheth no harme; for ſo bitter it is, that no living creature will touch it: and yet for the moſt part the husbandmen beſtow a light furrow upon it, and ſo cover it very ſhallow. If the ground be faſt and heavie, it loveth that beſt which ſtandeth upon a red clay. And for the maintaining and enriching of this kind of ſoile, it muſt be turned up or eared

after

after the third flouring: but in caſe it be gravelly or ſandie, it will ſerve to doe it after the ſecond. G
Chalkie grounds onely and myrie it hateth, and therein it will not grow. As bitter as otherwiſe it is, yet if it be ſteeped and ſoked in hote water, it is mans meat alſo. Moreover, one Modius or pecke of Lupines is ſufficient for to ſatisfie and feed an oxe or a cow at a time: and this kind of provender will make beaſts ſtrong and healthfull. Moreover, the meale of Lupines applied to the bellies of young children that have the wormes, is a ſingular remedie. For the good keeping of Lupines, all men agree that they ſhould bee laid up in ſome chimney or ſmokie place eſpecially; for if they lie in a moiſt roome, there be certaine little worms that will nibble off and eat the tip or navell that it hath, and by that meanes marre it for ever ſprouting againe. Finally, if Lupines be eaten downe by beaſts, while they be greene in the leafe, the ground where they grew muſt preſently be ploughed up. H

Chap. xv.

Of Vetches and Ervile.

VEtches alſo doe manure and fat the ground where they be ſowed; neither be they chargeable or ſtand the husbandman in much: they be ſown with one tilth; otherwiſe there needs no harrowing nor weeding: there is required no mucking; only they would be covered with mould and the clods broken. For ſowing of Vetches, there be three ſundrie times: firſt, about the ſetting of the ſtarre Arcturus, that by the moneth of December it may get a good head for to be eaten with beaſts; and it is generally holden, that beeing ſowed in this ſeaſon, it will bring the beſt ſeed; for ſay it be eaten downe then, it will carrie the burden nevertheleſſe: the ſecond I
Seednes is in Ianuarie: the laſt in March; and beeing then put into the ground, it will run up moſt to blade, and yeeld the beſt forage for cattell. Of all ſeeds that are caſt into the earth, it loveth drought moſt: it can brooke alſo ſhadie places well enough. The chaffe that commeth of the ſeed thereof, is excellent good; and better than any other, in caſe it were ripe when it was gathered. It robbeth vines of their nouriſhment, if it bee ſowed neare thoſe trees whereto vines are wedded; inſomuch as a man may ſee evidently how they languiſh.

As touching Ervile, it asketh no great hand or travaile about it: yet thus much more attendance it requireth than Vetches, for that it muſt be weeded and grubbed about the roots. Beſides, this kind of pulſe is of great uſe in Phyſicke; for *Auguſtus Cæſar* was cured of a diſeaſe that he had, and recovered his health by the meanes of Ervile, as himſelfe reporteth in ſome of his K
letters now extant. Moreover, five Modij or pecks of Ervile ſowne, is ſufficient to maintain and find a yoke of oxen. As for that which is ſowne in March, it is hurtfull forage (men ſay) for kine and oxen: as alſo that which they ſow in Autumne, maketh beaſts heavie and ſtuffed in the head: but that which is put into the ground in the beginning of the Spring, is harmeleſſe.

Chap. xvi.

Of Fœnigreeke: of Rie: of Dredge: of the provender corne or Bolimong Ocymum: of Spaniſh Trefoile or horned Claver-graſſe, called in Latine Medica: of the ſhrub Trifoile, named Cytiſus. L

FOr the ſowing of Silicia or Siliqua, otherwiſe called Fœnigreeke, there needs no more but to ſcarrifie or ſcrape it lightly up with a furrow not above foure fingers breadth deepe; for the leſſe coſt and husbandrie that is beſtowed about it, and the worſe that it is uſed, the better it proſpereth and yeeldeth greater encreaſe: a ſtraunge thing to be ſpoken and ſeldome verified, *That Negligence ſhould be any waies profitable*; and yet herein it prooveth true. That which is called * Secale and Farrago in Latine, [*i.* Rie] needeth no more adoe but to be harrowed and the clods well broken. There is a kind of Secale or Rie, which the people called Taurines dwelling under the Alpes, doe call Aſia: it is ſimply worſt of all other, and good for nothing but onely to drive away hunger: plentifull enough this corne is and yeeldeth good encreaſe, but the ſtraw is M
ſlender: blacke it is and of an unpleaſant colour, howbeit exceeding weightie and ponderous: they uſe to mingle the red wheat Far therewith, and make thereof a Maſcelline, to allay the bitterneſſe thereof; and yet for all that, the bread which it maketh is moſt unſavorie to the mouth and ill for the ſtomack. It will come up in any ground whatſoever, and bring forth a hundred fold ordina-

A ordinarily; neither doth it eat the ground out of heart, but rather maketh it more battle, and serveth in stead of compost or mucke.

As for that kind of dredge or farrage which commeth of the refuse and light corne purged from the red wheat Far, it ought to be sowne very thicke, with Vetches otherwhiles mingled among. In Africke, the same mixture is made of Barley. All these are good onely for provender and beasts forage: as also a bastard kind of Vetches called * Cracca, which pigeons love so well, that if they be fed once therewith, they will never leave the place where they tasted it, nor flie far from thence. In time past our auncestours had a kind of fodder or provender, which *Cato* called Ocynum, wherewith they * used to stay the gurrie in kine and oxen. This forrage was made of * beane stalkes cut downe greene as it stood before it was joynted and codded. But *Sura Manlius* B taketh this dredge to be another thing, saying, That in old time they used to put unto ten Modij of Beanes, twaine of Vetches and as many of Ervile, and so were woont to blend all togither and sow them in an acre of ground at the fall of the leafe: and (saith hee) it would be the better balimong if there were some Greeke Otes mingled withall, such as never shed the seed out of the haw. This manner of dredge was called usually Ocymum, and was woont to be sowne for a kind of forrage to serve kine and oxen. *Varro* saith, that it tooke that name because it commeth up so speedily, as being derived from the Greeke word ὠκὺς, which signifieth, Quicke, or Swift.

*or, rather *Arachos.*

**Sistebant. Varro* saith *citabant*, which is clean contrary.

* *Sabali legete antequã gemaret.*

As for the grasse or hearb Medica [a kind of Claver or Trefolie] the Greekes held it in old time for a meere straunger, as being brought into Greece from Media during the Persian wars, which King *Darius* levied against Greece: howbeit, an excellent Simple it is, and worthy to be C written of in the first place. And to begin withall, this singular propertie it hath, That with once sowing, it continueth above thirtie yeeres without any need of renewing. Like it is to Claver or three-leaved grasse, both in leafe and stalke, but that the stemme is parted by knots and joints. Moreover, as it riseth higher and runneth up in the stalke, the leaves grow narrower. Of this herb alone and of Cytisus, *Amphilochus* compiled one whole booke; howbeit, he wrate of them both confusedly. The ground wherein it is to bee sowed, after it is well rid of stones and cleansed, must be broken up and well tilled in the fall of the leafe. Soone after it needeth to have another fallow and be harrowed withall, and then covered with hardles: this would bee done two or three times (five daies betweene) and therewith it ought to bee throughly dunged. This hearbe requireth a sound drie ground, and yet such as is full of succulent moisture within, or else where water is neare D at hand to commaund. The ground beeing thus prepared, ought to bee sowed in the moneth of May following, for otherwise the frost would take it and marre all. Moreover, requisite it is, that it be sowed very thicke, so as every place be taken up therwith, thereby to exclude all other weeds and give them no roume there to grow. To this effect therefore every acre will take twentie Modij or pecks of seed. But take heed withall, that it be not burnt so soon as it is put into the ground, and therefore immediately it must be covered with mould. If the soile be moist and given to bear other grasse, the seed is soone overgrowne and choked, and then all will run to grasse, and turne to be a meddow. Which grasse or coich when you see begin to overrun the ground, it must be all weeded out presently an inch deepe within the ground, and by hand rather than any weeding hooke or thistle-spade. Now, when this hearbe Medica or Claver grasse beginneth once to flour, E cut it downe: and so often as it floureth againe, downe with it. Thus you may have sixe mathes in one yeare, or foure at the least. You must never let it spindle and beare seed: for better is it to take it thus in the growth, while it is but young and greene grasse, for three yeares together: and the forrage or fodder is most profitable. Sowne (I say) it must bee in the Spring, and weeded for the first three yeares. The greene sourd afterwards ought to bee pared away with hookes and spades close to the ground: for by this meanes you shall bee sure, that all other weeds will die, and this hearbe take no harme by it, for that by this time it is deepely rooted. If the weeds doe get head and overcome it, the onely remedie is by the plough, to turne up the ground over and over so many times, untill all other roots be killed. Moreover, heed must bee taken, that of this herbage or fodder, beasts doe not eat their fill; for feare you be driven of necessitie to let them bloud, and F take downe their rankenesse. The greener that it is, the more profite commeth thereof: for it drieth braunch after braunch, untill at length it will crumble like dust or pouder, and then is it good for nothing.

As touching Cytisus, [*i.* the Shrub Trifolium] which is a singular kind of pasturage, and passeth all the rest, I have written at full in my discourse of Shrubs. For now at this present I am to prosecute

cute and goe through the treatiſe of other ſorts of corne and their nature, if I had once written G
ſomewhat in one part thereof as touching the accidents and imperfections that happen among them.

Chap. xvii.

& The faults incident to corne, and their remedies. Alſo what corne is reſpective to this or that ſoile, for to be ſowne therein.

THe firſt and principall defect obſerved in bread-corne, and Wheat eſpecially, is when it doth degenerate and turne into Otes: and not onely it, but Barley alſo doth the like. Semblably, Otes otherwhiles ſerve the turne in ſteed of bread corne: as wee may ſee in ſome countries of Almaine, where they do uſually ſow it, and commonly they have no other pottage H
there, than Oatmeale gruell [which they call Abremouz.] The foreſaid defect and imperfection is occaſioned cheefely by the moiſt ſoile or overwet weather. Another cauſe there followeth alſo thereupon, proceeding from the feebleneſſe and weakeneſſe of the ſeed, namely, when it lieth long ſobbing in the ground, before it come up: and hereto may be referred the faultines of the ſeed otherwiſe, namely, if it were worme-eaten or otherwiſe rotten at the time of ſowing. And verily, no ſooner appeareth it above ground, but the foreſaid change or baſtardie may be ſeene, whereby it doth appeare, that the cauſe is in the root.

A ſecond defect or imperfection there is alſo incident to corne, which hath ſome neare reſemblance to the Otes aforeſaid; namely, when the graine being formed and newly come to the juſt proportion of bigneſſe (howbeit, not yet full and ripe) before that it is firme and hard, is ſmitten I
with a noiſome blaſt, and ſo, like an abortive fruit, decaieth and windereth away within the eare; in ſuch ſort, as there is no ſubſtance left therein, but appeareth void and emptie. Now theſe adverſe and malignant winds hurt all ſpiked corne, as well Wheat as Barley, at three ſeverall times: to wit, in their flower; preſently upon their blouming; and laſt of all, when they begin to ripen; for then, namely when they are upon the point of maturitie, thoſe blaſts conſume the graine, and bring it to nothing, which before was full: whereas at the two former ſeaſons they hinder it altogether from knitting and growing. The hote gleames moreover of the Sunne, betweene often clouding, doe much harme to corne.

Furthermore, there be certaine little wormes breeding in the root, that doe eat it: which happeneth by occaſion of much raine falling immediately after the ſeednes, eſpecially, when ſome K
ſome ſuddaine heat and drowth enſueth therupon; which bindeth the earth above, and ſo, encloſeth the moiſture conceived within, the very cauſe & nourice of putrifaction. Ye ſhall have other ſuch like vermine engender likewiſe in the very graine of the corne, namely, when the eare doth glow within, and is chafed with ſultrie hote raines. Over and beſides, there be certaine [green] flies like ſmall Beetles, called Cantharides, which doe gnaw and eat the corne. But all theſe, and ſuch like wormes or flies die preſently, when the corne (which was their food) is gone. Moreover, Oile, Pitch, and Tarre, all manner of greace alſo, bee contrarie to ſeed-corne eſpecially; and therefore take heed that you ſow none ſuch as hath caught Oile, Pitch, or Greace. As for ſhowers of raine, good they are for corne, ſo long onely as it is in the greene blade: when corne is blouming (be it either Wheat or Barley, or ſuch like) raine is hurtfull. Marie Pulſe takes no harme therby, unleſſe L
it be the Cich-peaſe.

All kinds of Wheat and other bread corne, when they be toward ripeneſſe, catch hurt by ſhowers; but Barley more than any. Beſides all this, there is a certaine white hearbe or weed reſembling Panicke, growing among corne, and overſpreading whole fields: which not onely hindereth corne, but alſo killeth all the cattell that feedeth thereupon. For as touching ray or darnell, burs, thiſtles, and brambles, I may hold and reckon them, not ſo much for faults and imperfections of corne, as rather the plagues and infections proceeding from the very earth. And for blaſting, which commeth of ſome diſtemperature of the aire (a miſcheefe common as well to corne, as vines) it is as hurtfull as any other maladie whatſoever. This unhappie blaſt falleth moſt
often in places ſubject to miſts and dewes, and namely, hollow vallies and low grounds lying un- M
der the wind: for contrariwiſe, windie quarters, and ſuch as are mounted high, are not ſubject to this inconvenience. Alſo, wee may number among the faults incident to corne, their rankeneſſe; namely, when the blade is ſo overgrowne, and the ſtalke ſo charged and loden with a heavie head that the corne ſtandeth not upright, but is lodged and lieth along. Moreover, when there falleth

a great

A a great glut of raine, inſomuch as the ground ſtands with water, there befalleth unto all corn and pulſe, yea, and whatſoever is ſowne, a certaine diſeaſe called in Latine Vrica: inſomuch, as the very Cich-peaſe taketh hurt thereby: for by reaſon that the raine waſhed from them that ſalt qualitie which is naturall thereunto, it becommeth ſweeter than it ſhould bee, and looſeth the kind taſt. There is a weed that claſpeth and tieth about Ciches and Ervile, whereby it choketh and killeth them both: and thereupon it is called Orobanchum, *i.* Choke Ervile. After the ſame manner dealeth *Raie or Darnell by Wheat; wild Otes likewiſe, named by ſome Ægilops, with Barley; as alſo the weed Securidaca, *i.* Ax-fitch, which the Greekes alſo (for the reſemblance that it hath to an axe head) call Pelecinon, *with Lentils. Theſe weeds (I ſay) kill corne by winding about it. Another hearb there is, growing neare to the citie Philippi, which killeth Beans: if the ground B be fat and good, they name the ſaid weed Ateramnon: but if it bee found in a hungrie and leane ſoile, and namely, when being wet, ſome unhappie wind bloweth upon it, they call it Teramnon. As for the graine of Raie or Darnell, it is very ſmall, and lieth enclоſed with a ſharpe-pointed huske. The bread which hath any of this ſeed in it, ſoone cauſeth dizzineſſe and ſwimming of the head. And (by report) in Aſia and Greece the maiſters of the common Baines and Stuphs, when they would keepe away the great reſort of multitude thither, have a deviſe to caſt Darnell ſeeds upon burning coales; for this perfume will quickly ſet them farther off. Moreover, if the Winter prove to be wet and wateriſh, yee ſhall have in the Pulſe called Ervile, a little vermine engendred there, called Phalangion, and it is of the kind of theſe Spiders. Likewiſe upon Vetches there will breed naked dew-ſnailes, yea, and otherwhile thoſe little ones with ſhels or houſes on their backs, C which creeping from the ground, will gnaw & eat them, that it is a wonder to ſee what foule work they will make. Thus much concerning all the maladies and inconveniences (to ſpeake of) incident to corne. It remaineth now to ſpeake of the remedies.

Æra. 4.

*ζιζάνιον, but more truly ἀγρόστις, out of *Theophraſtus*. Thus *Plinie* miſtaketh in many places: and for example immediately in the word *Ateramnes*, which is appropriate to all Pulſe that require much ſeething, or be hard of digeſtion. *Theophraſt. cap.* 13. & 14. *lib.* 4. *de Plant.*

As touching the cure of thoſe harmes that come by hurtfull weeds to the corne in blade, it conſiſteth principally in two things: namely, either in the uſe of the weeding knife or hooke, when they be newly come up; or elſe in ſtrewing aſhes when the corne is a ſowing. But as for thoſe dangers that touch the ſeed or graine in the eare and cod, as alſo that ſettle about the root, they muſt be prevented by good forecaſt, even before it be thrown into the ground. It is generally thought that if ſeed-corne lie ſteeped beforehand in Wine, it will bee better able afterwards to reſiſt all diſeaſes whatſoever. *Virgil* giveth order to infuſe or ſoke the Beanes that muſt be ſowne, in Nitre D and Oile lees or dregs: and hee aſſureth us, that they will proſper mightily beſides, and become exceeding great. But others are of opinion, That if for 3 daies before they bee caſt into the earth they lie in urine and ſhere water mingled together, they will being thus prepared, come on apace, and thrive paſſing well. It is ſaid moreover, That if Beanes bee thrice raked and rid from weeds, one Modius of them being whole and ſolide, will yeeld a Modius againe after it is husked & broken. As for other ſeed-corne, it will eſcape the danger of the worme, if either it lie before among Cypreſſe leaves bruiſed; or be ſowed in and about the change of the Moone, namely, when ſhe is not to be ſeene above the earth in our hemiſphære. Many there be who practiſe other remedies: and namely for the Miller, they would have a toad to be caried round about the field before that it be harrowed: which done, to bee put cloſe within an earthen pot, and ſo buried in the middeſt E of the ſaid field: and by this meanes forſooth, neither Sparrows will lie upon the corne, nor any worme hurt it. Marie, in any caſe this ſame toad muſt be digged out of the ground againe before the field bee mowed, elſe will the Millet proove bitter in taſt. The like experiment they ſay is of a Moldwarpes ſhoulder, for if any corne be ſowed or touched therewith before, it will come up the better and bring more encreaſe. *Democritus* had a deviſe by himſelfe for all ſeed & corne whatſoever, namely, to temper & ſoke the ſame corne in the juice of the hearb Houſleeke or Sea-green, growing upon houſes either tiled or ſhindled; which in Greeke is called Aizoon, and in Latine Sedum or Digitellum; for this medicine will ſerve for all maladies. The common practiſe of our Husbandmen is this, In caſe through the overſweet ſap or juice in greene corne, wormes take to the roots: for to ſprinckle them with ſimple oile lees pure and cleane without any ſalt, and afterF wards to rake it in. Alſo, when the corn begins to joint and gather into knots, then to cleanſe the ground, and put off no longer, for feare leaſt the weeds do get head and overgrow. This I am ſure upon mine owne knowledge, that there is an hearbe (but what proper name it hath I wote not) which if it bee enterred in the foure corners of a field that is ſowne with Millet, it will drive away Stares and Sparrowes, which otherwiſe would by whole flights and flockes lie thereupon and doe much

much harme: nay I will ſpeake a greater word and which may ſeeme wonderfull, There is not a G
bird of the aire one or other, that dare enter or approach ſuch a field. Field-mice and Rats are
skared away and will not touch corne, which before the ſowing was either beſtrewed with the
aſhes of Weaſils or Cats, or elſe drenched with the liquor and decoction of water wherein they
were boiled: howbeit this inconvenience enſueth hereupon, That bread made of ſuch corn will
have a ſmach, and ſent ſtrongly of ſuch Cats and Weaſils: and therefore it is ſuppoſed a more
expedient and ſafer way to medicine our ſeed-corne with oxe gall, for to preſerve it from the
ſaid Mice and Rats. But what remedie againſt the blaſt and mildew, the greateſt plague that can
befall upon corne? Mary pricke downe certaine Lawrell boughs here and there among the ſtan-
ding corne, all the ſaid miſts and mildews will leave the corne and paſſe to the Bay leaves, and
there ſettle. What ſhall we doe then to corne when it is over-ranke? Eat it me downe with ſheep H
and ſpare not, whiles it is young and in the blade onely, before (I ſay) it be knotted: and never
feare harme by the ſheeps teeth as neare as they go to the ground: for let it be thus eaten many
times, the corne will be the better, yea and the head will take no harme thereby but proove the
fairer. If ſuch ranke corne be once cut downe with the ſyth, and no more, certein it is that the
graine in the eare will bee the longer to ſee to, howbeit void and without any floure within it: for
ſow ſuch ſeed againe, and it will never grow nor come up. And yet about Babylon, the manner is
to mow it twiſe firſt, and the third time to put in ſheepe to it for to eat it downe; otherwiſe the
corne would never ſpindle, but blade ſtill, and run all to leaſe. But being thus cut and cut againe,
* Folicium ſoli. and eaten in the end, yee ſhall have it to encreaſe and multiply fiftie for one, * ſo fertile is the
ſoile: and if the owner be a good husband beſides, and uſe the ground accordingly, hee ſhall
reape thrice as much, even a hundred and fiftie fold. And what carefull diligence is that which I
is here required? Surely neither much, nor difficult: onely he muſt be ſure to keepe the ground
well with watering for a long time togither, to the end that it may be diſcharged of the overmuch
fat within it, which by this meanes will be waſhed well away, and the rankneſſe delaied. Yet as rich
and fertile as this ſoile is, the two rivers Euphrates and Tigris (which uſe to overflow and water
the countrey) bring no ſlimie mud with them, as Nilus doth in Ægypt, whereby the ground is
made ſo fat as it is: neither is the nature of the earth there, given to breed hearbs that it ſhould
need any weeding: and yet ſo plenteous and fruitfull it is, that it ſoweth it ſelfe againſt the next
yeere; for the corne that ſheddeth in the reaping and mowing, being troden under foot into the
ground, is as good as a ſowing, and riſeth of it ſelfe without any further labour.

Seeing then there is ſo great difference in the ſoile, I am put in mind therby to fit every ground K
with ſeed reſpectively, according to the nature and goodneſſe thereof. This therefore is the opi-
nion of *Cato*, That in a groſſe and fat ſoile, there would be wheat and ſuch like hard corne ſowne:
and if the ſame bee ſubject alſo to miſts and dewes, there may be ſowed therein Radiſh. Millet,
and Panicke, muſt be ſowed firſt in a cold and wateriſh ground; and afterwards for change, in a
hot ſoile. *Item*, the red bearded wheat Far or Adoreum, requireth a chalkie and ſandie ground,
and namely if it be well watered. *Item*, the common wheat loveth a drie ſoile, expoſed to the
ſunne, and not given much to breed ſuperfluous weeds. *Item*, Beans will doe well in a ſound and
faſt ſoile. As for Vetches, they care not how little they be ſowed in a moiſt peece of ground, and
ſuch as is apt to run to graſſe. Moreover, for the fine winter wheat Siligo, whereof the beſt man- L
chet is made, as alſo for the common frumentie wheat, there would be choſen an open & high
ground, lying pleaſantly upon the ſunne, that it may have the heat thereof to parch it as long
and as much as is poſſible. As for Lentils, they doe like a good rough and ſhrubbie ſoile, full of
red earth, ſo as it be not apt quickly to gather a green-ſord. * Barley would gladly grow upon a
* οἶνον δὲ πολὺς πεδίοιο ἐρύκει. reſtie ground new broken up, or elſe ſuch as be in heart to beare every yeere. And as for ſummer
Plutarch. (barley) of three moneths, it would bee ſowne in a ground where it could not have an early or
timely Seednes, and which is ſo fat and rich, as it may affourd to beare crop, yeer by yeer. Finally,
to ſpeake to the purpoſe indeed, this alſo is *Catoes* wittie reſolution in one word for all: If the ſoile
be light and leane, ſeed it with ſuch graine or forage ſeed, as require no great nouriſhment, as for
example, with Cytiſus; and excepting the Cich peaſe, with all pulſe that are uſed to be plucked M
out of the earth, and not mowed downe: and thereupon indeed are theſe pulſe called in Latine
Legumina, becauſe they are plucked and gathered in that ſort: but in caſe the ground be good
and fat, ſow ſuch things as require fuller food and nutriment; and namely, all garden woorts and
pothearbs; wheat, both the common and the fine; and Lineſed. Then, according to this rule, a

leane

A leane and hungrie soile will well agree with barley, for the root is contented with lesse nutriture: whereas contrariwise we allow both lighter, and also more massie and richer ground for our ordinarie wheat. In a low and wet peece of ground, it is good to sow the red wheat Adoreum, rather than the common wheat Triticum: but both it and barley will sort well with a soile of a middle temperature. The hills yeeld a firme, fast, and strong kind of wheat, but the graine is but small. And to conclude, the best kinds of wheat, to wit, Far and Siligo, challenge for their lot to be seared in a chalkie soile, and therewith alwaies wet and soked in water.

Chap. xviii.

Of straunge prodigies and wonders observed in corne: the knowledge and skill of
B *earing and tilling the ground: also divers sorts of plough-shares.*

ALbeit I have in the title of this chapter purposed to write of prodigies seene in corne, yet to my knowledge, there never happened but once the like wonder and portenteous sight to this which I shall tell, and which befell in the time that *P. Ælius* and *Cn. Cornelius* were Consuls of Rome; that very yeare wherein *Annibal* with his whole armie was defeated and vanquished: for then (by report) there was corne grew upon trees.

But forasmuch as I have discoursed at large of the sundrie kinds as well of corne as of ground, I will proceed now forward and come to the manner of ploughing the earth, after I have first set downe before all things else, how easie the husbandrie is in Ægypt: for there the river Nilus
C serving in stead of a good ploughman, beginneth to swell and overflow (as wee have before reheatsed) at the first new moone after the Summer sunstead. He beginneth faire and softly, and so encreaseth more and more by little and little; but all the while that the Sunne passeth under the signe Leo, he higheth apace untill he be risen to his full heigth: being entred once into Virgo, his furie slaketh; then decreaseth hee as fast, untill he be falne againe into his wonted channell, which ordinarily happeneth by the time that the sunne is in Libra. Now this is observed, That if he rise not plumb above twelve cubits high, the people are sure to have a famine of corne that yeere: the like also doe they make account of, in case hee passe the gage of sixteene cubits: for the higher that he is risen, the longer it is againe ere he be fully falne, by which time the Seednes is past, and men cannot sow the ground in due season. It hath been generally received for a
D truth, That presently upon the departure of this deluge and overflowing of Nilus, they were woont to cast their seed-corne upon the floten ground, and presently let in their swine after for to trample it with their feet into the earth whiles it was soft and drenched. And verily, for mine owne part, I beleeve well, they used so to doe in old time: for even now adaies also, much more ado they make not about it. Howbeit, this is certein, that first they cast their seed upon the slime and mud so soone as the river is downe, which commonly falleth out in the very beginning of November: which done, they goe over it with the plough and give it a light tilth, so as it may be covered only & lie under a small furrow. Some few there be that afterwards fall to weeding, which point of husbandrie they call Botanismos: but the most part, after they have once sowed and turned their seed into the ground, never after make a step into field to see how their corne groweth,
E untill they go once for all with syth on necke or sickle in hand, namely at the end of March; for then they fall to reaping and cutting it downe: so as by the moneth of May they sing in Ægypt, Harvest in, and all is done for that yeare. As touching this corne gathered in Base Ægypt, the straw is never a cubit long: the reason is, because the seed lyeth very eb, and hath no other nutriment than from the mud and slime aforesaid; for under it is nothing but sand and gravell. But those that inhabit higher up into the countrey, namely about Thebais, they be farre better provided for corne, because Ægypt indeed (for the most part) lyeth low upon marais ground. Toward Babylon likewise and Seleucia (where the rivers Euphrates and Tigris doe swell over their banks and water the countrey) the same husbandrie is practised, but to better effect & greater profit, by reason that the people may let in the water at sluces and floud-gates, more or lesse
F with their owne hands, according as they list themselves. Also in Syria, they have their small ploughs for the nones to take a shallow stitch and make light worke: whereas in many places here with us in Italie, eight oxen are little enough to every plough, and to goe away withall they must labour at it till they blow and pant againe. It is an old said Saw, and may goe for an oracle to be practised in all parts of husbandrie, but in this point of ploughing especiall, *Bee ruled by*

the nature of every countrey, and see what each ground will abide. To come now unto our ploughs. G
Of Shares, there be many sorts: first, there is that instrument called a Culter, which serveth to make way before, cutting and cleaving the hard and thicke ground as it goeth, before it be broken up and turned atoneside: this sheweth by the slits and incisions that it maketh (as it were by a true line drawn) how the furrowes shall go; after which, commeth the broad bit of the ploughshare indeed, lying flatwise, and in earing casteth up all before it, and cleareth the furrow. A second sort there is, commonly used in many places, and it is no more but a bar of yron pointed sharpe in manner of a beake-head or stem of a ship; and it may bee called, a Rostle. And when the ground is not stubborne but gentle to be wrought, there is a third kind used, which is no
* *Dentali.* other thing but a peece of yron not reaching all over the * plough head and shooing it to the full, but turning up like a snout with a small point sharp at the end. This neb is somewhat broader H
in a fourth kind of shares; but as it is broader in blade and trenchant withall, so it is sharper also at the end, insomuch, that both with the point forward & the edges of the sides, it not only pierceth the ground before it poinctant like a sword, but also cutteth the roots of weeds which it encountreth: a devise invented not long since in Rhœtia. As for the Gauls, they set too besides, certaine small roundles or wheeles; & a plough thus shod & harnaised, they call in their language
* or as some thinke, *Plinyadt.* *Planarati: the head of their share is broad, fashioned like unto the bit of a spade: and thus they sow their grounds for the most part, new broken up and not tilled nor eared before. And for that their plough-shares be large and broad, so much the easier turne they up good turfs of earth and make broad furrowes. Presently after the plough, they throw in their seed, and mould or cover it afterwards with yron-toothed harrowes drawne aloft. Lands in this manner sown, need no other I
raking or weeding; for commonly they make not past two or three bouts in a land, and as many ridges. Finally it is thought, that in this manner there may be sowne in one yeere by the helpe of one yoke of oxen, fortie arpens or acres of land ordinarily, if the ground be gentle and easie to be eared; but if it be stiffe and stubborne, they shall have worke enough to go through thirtie.

Chap. xix.

The seasons that be proper for tilling the ground: also the manner of coupling oxen in yoke.

IN this operation of ploughing ground, I am of mind to follow that Oracle or Aphorisme of *Cato*, who being asked which was the first and principall point of Agriculture, answered K
* *bene colere.* thus, *Even to husband, order, and tend ground well:* being demaunded againe, what was the se-
* *bene arare.* cond, he made answer, *To plough well:* and when the question was propounded concerning the
* *bene stercorare.* third point of husbandrie, he said, *That it consisted in manuring and dunging it.* There bee other necessarie rules besides, set downe by him as touching this matter; namely, Make no unequall furrowes in ploughing, but lay them alike with one and the same plough. Passe not the kindly season, but eare the ground in due time. In the warmer countries, lands would bee broken up and fallowes made, immediatly after the winter Solstice or Sunstead. In colder regions, touch them not before the spring Æquinox or mid-March. In a drie quarter, plough more early than in a moist: sooner also in a fast and compact soile, than in a loose and light ground: in a fat and rich field, than in a leane and poore land. Looke in what climat the Summer is ordinarily drie L
and hot, it is thought more profitable to eare up a chalkie or a light and lean ground, betweene the summer Sunstead and the Æquinoctiall in the fall of the leafe. If the climat be such as yeeldeth but little heat in Summer, and therewith many showrs of raine, where the soile also is fat and beareth a thicke greene-ford, it were better to breake up ground and fallow in the hotest season: where the soile is heavie, grosse, and fat, and wherein a man may tread deepe, I like well that it should be tilled and stirred in winter: but in case it be very light and drie withall, it would not be
* In the Spring. medled with but a little before * Seednes. Here also be other proper rules set down by *Cato*, pertinent to Agriculture: Touch not (qd. he) in any hand a peece of ground that soon will turne to dust and mire. When thou doest plough indeed for to sow, employ thy whole strength thereto: but before thou take a deep stitch for all, give it a pin-fallow before; this commoditie commeth M
thereof, That by turning up the turfe with the botom upward, the roots of weeds are killed. Some are of this opinion, That howsoever we do els, a ground should have the first breaking up about the spring Æquinox. A land that thus hath ben once plowed in the spring, is called in Latin Vervactum, & hath that name of the foresaid time Ver, [*i.* the Spring.] Indeed ley grounds & such as

rest

A reſt ech other yeer, muſt be in this wiſe followed. Now if you would know what the Latins meane by Novale, they take it for a field that is ſowed every ſecond yeere. And thus much of the Land.

To come now unto our draught oxen that muſt labour at the plough: they ought to be coupled in yoke, as cloſe togither & as ſtreight as is poſſible, to the end that whiles they be at worke and ploughing, they may beare up their heads; for by that meanes they leaſt doe gall or bruiſe their necks. If they chaunce to goe to plough among trees and vines, they muſt be muzled with ſome frailes or deviſes made of twigs, to the end they ſhould not brouſe and crop off the young ſprings and ſoft tendrils. Moreover, there ought a little hatchet to hang evermore faſt to the plough beame before, therewith to cut through roots within the ground, that might breake or ſtay the plough: for better is it ſo to doe, than to put the plough to it, to keep a plucking at them,
B or to force the poore oxen to lie tugging and wreſtling with them. Alſo in ploughing, this order is to be kept, That when the oxen are * gone downe with one furrow to the lands end, they turne and goe up againe with another; ſo that in ploughing of a land they * reſt betweene-whiles as little as may be, but evermore goe forward in their labour untill they have made an end of their *halfe acre; or halfe daies worke: and verily it is thought ſufficient for a teeme of oxen to breake up (at the firſt tilth) in one day of reſtie or ley ground, one acre, taking a furrow or ſtitch of nine inches; but at the ſecond tilth or ſtirring, an acre and a halfe: which is to be underſtood, of an eaſie and mellow ſoile to be wrought: for if it be tough and churliſh, it is well if they eare up at the firſt, halfe an acre; and at the next time they may go through with one whole acre, how hard ſoever the ground be: for thus poore beaſts have their taske ſet, and their labour limited by Na-
C tures lore and appointment. Every field to be ſown, muſt be eared at firſt with ſtreight and direct furrowes; but thoſe that follow after, ought to goe byas and winding. If a ground upon the pendant or hanging of the hill bee to be broken up, the furrowes muſt goe croſſe and overthwart: howbeit, the point and beake of the plough-ſhare muſt be ſo guided, that one while it bear hard above of the one ſide, and another while beneath on the other ſide: and verily in this mountaine worke, the ploughman that holdeth the plough hath toile enough, and laboureth at it as hard as the oxen doe. Certes, there bee ſome mountaines that have no uſe at all of this beaſt, but they eare their ground with raking and ſcraping hookes onely. The ploughman, unleſſe he bend and ſtoupe forward with his bodie, muſt needs make ſlight worke, and leave much undone as it ought to be; a fault which in Latine we call Prevarication: and this tearme appropriate unto Husban-
D drie, is borrowed from thence by Lawyers, and tranſlated by them into their courts and halls of pleas: if it be then a reprochfull crime for Lawyers to abuſe their clients by way of colluſion, we ought to take heed how wee deceive and mocke the ground, where this fault was firſt found and diſcovered. To proceed, the ploughman ever and anon had need to cleanſe the culter and the ſhare with his ſtaffe, tipped and pointed at the end like a thiſtle-ſpade: hee muſt beware that betweene two furrowes, he leave no naked balkes raw and untilled: alſo that the clots ride not one upon anothers backe. Badly is that land ploughed, which after the corn is ſowed, needs the great harrowes and clotting. Contrariwiſe, a man may know where there is good worke, namely, if the turfe be ſo cloſe couched that there be no ſeames to be ſeene where the plough-ſhare went. Finally, it is a profitable point of husbandrie and much practiſed (where the ground doth both beare
E and require it) For to draw here and there broad gutters or furrowes, to drain away the water into ditches and trenches caſt for the nones between the lands, that otherwiſe would ſtand within and drowne the corne.

*Versum peragit.
*Strigere.
*Actus.

Chap. xx.

Of harrowing and breaking clods. Of a certaine kind of ploughing uſed in old time. Of the ſecond tilth or fallow called Stirring: and of Cutting.

After the ſecond fallow called Stirring, done with croſſe and overthwart furrow to the firſt; then followeth clodding, if need be, either with rakes or great harrowes: upon which enſueth ſowing; & when the ſeed is in the ground, harrowing a ſecond time with the ſmall har-
F row. In ſome places, where the manner of the countrey doth ſo require, this is performed with a tined or toothed harrow, or elſe with a broad planke faſtened unto the plough taile, which dooth hide and cover the ſeed newly ſowne: and in this manner to rake or harrow, is called in Latine Lirare, from whence came firſt the word Delirare, which is to leave bare balkes uncovered, and by a Metaphore and borrowed ſpeech, to rave and ſpeake idly.

*Illa seges demum votis respondet auaris
Agricolæ, bis quæ sole bis frigora sensit.

*1 Breaking.
2 Stirring.
3 Crushing.
4 Setting up.
5 Casting downe.

It should seeme that *Virgil* prescribed, that the ground should have foure tildies in all, by these words, when he said, That the corne was best, which had two Summers and two Winters. But if the ground bee strong and tough, as in most parts of Italie, there needs a *fift tilth before sowing: and in Tuscane verily they give their ground, otherwhiles no fewer than nine fallowes, before it be brought into tillage. As for Beanes and Vetches, they may be sowed under furrow, without breaking up the ground before; for this is a readie way, gaining time, saving charges, and sparing labour. G

And here I cannot overpasse one invention more as touching earing and ploughing the ground, devised in Piemont and those parts beyond the Po, by occasion of some hard measure and wrong offered to the people and paisants of that countrey during the warres: And thus stood the case. The Salassians making rodes into the vale lying under the Alpes, as they forraied and harried the countrey all over, assaied also to overrun their fields of Panicke and Millet being now come up and well growne, meaning thereby to destroy it: but seeing the nature of that graine to be such, as to rise againe and to checke this injurie, they set ploughes into it, and turned all under furrow, imagining by that meanes to spoile it for ever. But see! what ensued thereupon? those fields thus misused (in their conceit) bare a two-fold crop, in proportion to other years; and yeelded so plentifull an harvest, as that thereby the paisants aforesaid learned the devise of turning corne in the blade into the ground, which I suppose in those daies when it new came up, they called Aratrare. And this point of Husbandrie they put in practise, when the corne begins to gather and shew the stem or straw, to wit, so soone as it hath put forth two or three leaves and no more. H

Neither will I conceale from you another new devise, practised and invented first, not above three years past in the territorie of Treviers, neare to Ferrara. For at what time as their corn fields by reason of an extreame cold winter, seemed to be frost-bitten and spoiled, they sowed the same againe in the month of March, raking and scraping the upper coat of the ground onely without more adoe: and never in their lives had they the like encrease when harvest came. Now as touching all other Tillage and Husbandrie meet for the ground, I will write thereof respectively to the severall kinds of corne. I

Chap. xxi.

Of the tillage and ordering of the ground.

K

The fine Wheat Siligo, the red bearded Wheat Far, and the common Wheat Triticum; Spelt or Zea (generally called Seed,) and Barley, when they be new sown, would be well clotted and covered first, harrowed afterwards, and weeded at the last to the very root; all at such seasons as shall be shewed hereafter. And to say a truth, every one of these is a sufficient worke for one man to doe in a day throughout an acre. As for the Sarcling or second harrowing, it dooth much good to corne: for by loosening the ground about it, which by the Winter cold was hardened, clunged, and (as it were) hide-bound, it is somewhat enlarged and at libertie against the Spring tide, and full gladly admitteth and receiveth the benefite of the fresh and new come Sunshine daies. Let him take heed who thus sarcleth or raketh the ground, that he neither undermine the roots of the corne, nor yet race or disquiet and loosen them. The common wheat, Barley, the Seed Zea, (*i.* Spelt) and Beanes, would doe the better if they were thus sarcled, and the earth laid loose about them twice. The grubbing up of weeds by the root, at what time as the corn is jointed, (namely, when the unprofitable & hurtfull hearbs are plucked forth and rid out of the way) much helpeth the root of the corne, discharging it from noisome weeds, procuring it more nutriment, and severing it apart from the other greene fourd of common grasse. Of all Pulse, the Cich pease asketh the same dressing and ordering, as the red wheat Far. As for Beanes, they passe not at all for weeding: and why? they overgrow all the weeds about, and choke them. The Lupines require nought else to bee done unto them but onely weeding. Millet and Panicke, must bee clotted and once harrowed untill they bee covered: they call not for a second raking and scraping about them, for to loosen the earth, and to lay fresh mould unto them; much lesse to be weeded. As for Silicia or Siliqua, *i.* *Fenigrecke, and Fasels, *i.* Kidney Beanes, they care onely for clodding, and there an end. L M

* For so he interpreteth it himselfe in the 16 chap. of this booke.

Moreover, there be certaine grounds so fertile, that the corne comming up so thicke and rank in the blade, ought then to be kembed (as it were) & raked with a kind of harrow set with teeth or

A ſpikes of yron: and yet for all this, they muſt be graſed or eaten downe beſides nevertheleſſe with Sheep. Now we muſt remember, that after ſuch cattell hath gone over it with their teeth, the ſame corne thus eaten downe, muſt of neceſſitie bee ſarcled, and the earth lightly raked and raiſed up freſh againe. Howbeit, in Bactriana, Affricke, and Cyrene, there needs no ſuch hand at all: for the climate is ſo good, ſo kind, and beneficiall, that none of all this paines is required: for after the ſeed is once ſowne, they never viſite it but once for all at nine moneths end, at what time they returne to cut it downe and lay it upon their thraſhing floores: the reaſon is, becauſe the drought keepeth downe all weeds; and the deawes that fall by night, are ſufficient to refreſh and nouriſh the corne.

Virgil is of opinion, That fallowes would be made every yeare, and that our corn field ſhould
B reſt betweene whiles, and beare but each other yeare. And ſurely, I doe find this rule of his moſt true, and doubtleſſe right profitable; in caſe a man have land ynough for to let his grounds play them, and reſt every ſecond yeare. But how if a man is ſtreighted that way, and hath no ſuch reach and circuit lying to his living? Let him helpe himſelfe this way: let him (I ſay) ſow his good red wheat Far againſt the next yeare, upon that ground from whence he gathered this yeare a crop of Lupines, Vetches, or Beanes, or ſome ſuch graine as doth enrich and mucke the ground. For this alſo is principally to be noted, that ſome corne is ſowne for no other purpoſe, but by the way as it were to advance and helpe others to fructifie: howbeit, ſmall fruit and encreaſe (to ſpeake of) ariſeth thereby, as I have obſerved once for all in the booke immediately going before, becauſe I would not willingly reiterate and inculcate one thing often. For herein regard eſpecially ought
C to be had, unto the nature and propertie of every ſoile.

Chap. xxii.

Of certaine countries exceeding fertile and fruitfull. Of a Vine bearing grapes twice in one yeare. Of the difference and diverſitie obſerved in waters.

THere is in Affricke or Barbarie a citie called Tacape, ſituate in the middeſt of the ſands, as men goe to the Syrts and Leptis the great: the territorie lying about which citie, by reaſon that it is ſo well watered, is marvellous fruitfull, and indeed paſſeth a wonder and is incredible. Within this tract there is a fountaine, which ſerveth abundantly for three miles well neere,
D every way; the head thereof verily is large ynough otherwiſe, howbeit the inhabitants about it are ſerved with water from thence by turnes, and diſpenſed it is among them at certaine ſet houres, and not otherwiſe. Ther ſtandeth there a mightie great Date tree, having under it growing an Olive, under which there is a Figge tree, and that overſpreadeth a Pomgranate tree, under the ſhade whereof there is a Vine: and under the compaſſe thereof, firſt they ſow Frumentie or cared corne, after that Pulſe, and then worts and hearbes for the pot, all in one and the ſame yeare. Every one of theſe rehearſed, live, joy, and thrive under the ſhade of others. Every foure cubites ſquare of this ſoile (taking the meaſure of a cubite from the elbow, not to the fingers ends ſtretched out in length, but clapſed together into the fiſt) is ſold for *foure deniers Romane. But this one ſurpaſſeth all the reſt: The Vines in the ſaid territorie beare twice a yeare, and yeeld their
E grapes ripe for a double Vintage. So exceeding fruitfull is the ſoile, that unleſſe the rankeneſſe thereof were abated and taken downe, by bearing ſundrie fruits one under and after another, ſo that it were emploied to one thing alone, the inhabitants ſhould never have any good thereof: for by reaſon of the over-rankeneſſe, each ſeverall fruit would periſh and come to naught. But now by means of plying and following it ſtill with ſeed, a man ſhall gather one fruit or other ripe, all the yeare long. And for certaine it is knowne, that men cannot overcharge the ground, no nor feed the fertilitie of it ſufficiently.

*2 ſh. 6 d. ſterl. By which reckoning one acre would coſt above 20 pound ſterling: ſo much in proportion of the whole, as this cubit is under our halfe yard or 18 inches.

Moreover, all kinds of water are not of like nature nor of equall goodnes, for to drench and refreſh the ground. In the province of Narbone, now Languedoc, there is a famous well or fountaine named Orge, within the very head whereof there grow certain hearbes, ſo much deſired and
F ſought for by kine and oxen, that to ſeeke and get a mouth full of them, they will thruſt in their whole heads over their eares, untill they meet therewith. But howſoever theſe hearbes ſeeme to ſpring & grow within the water, certain it is, that nouriſhed they are not, but by rain from above. And therfore to conclude and knit up all in one word, Let every man be well acquainted with the nature both of his owne land which he hath, and alſo of the water wherewith he is ſerved.

G

Chap. xxiii.

Of the diverſe qualities of the ſoile. Alſo, the manner of dunging or manuring grounds.

IF you meet with a ground of your owne, which wee called heretofore by the name of Tenara, the floure indeed and principall of all others: after you have taken off a crop of Barley, you may very well ſow Millet thereupon: and when that is inned and laid up in the barne, proceed to Raddiſh. Laſt of all, after they bee drawne, there may bee Barley or common Wheat ſowed in the place, like as they doe in Campaine: for ſurely ſuch a peece of ground needs no other tillage, but often ſowing. Another order there is beſides this in ſowing of ſuch ſoile, namely, that where H there grew the red wheat Adoreum or Far, there the ground ſhould reſt all the foure Winter moneths, and in the Spring be ſowed againe with Beanes; ſo that it alwaies be emploied & kept occupied untill Winter without any intermiſſion. And ſay that the ground be not altogether ſo fat, yet it may be ordered ſo, that it be ever bearing by turnes in this ſort, that after the Frumentie or Spike corn be taken off, there be pulſe ſowed three times, one after another. But in caſe the ground be over poore and leane, it muſt bee ſuffered to reſt and take repoſe two yeares in three. Moreover, many Husbandmen do hold, that it is not good to ſow white corne or Frument upon any land, but ſuch as lay fallow and reſted the yeare before.

However it be, the principall thing in this part of Agriculture, conſiſteth in dunging: whereof I have written alreadie in the former booke next to this. This one point only is reſolved upon by I all men, that none of our grounds ought to be ſowed, unleſſe they bee manured and mucked before. And yet herein muſt we be directed by certaine rules peculiar and proper thereunto, as follow. Millet, Panicke, Rapes, Turneps or Navewes, ought never to be ſowed but in a ground that is dunged. If there bee no compoſt laid upon a ground, ſow upon it Frument or bread corne, rather than Barley. Likewiſe in grounds that reſt and lie fallow every other yeare, albeit in all mens opinion, they are thought good for to beare Beanes, yet notwithſtanding Beanes love better whereſoever they come to be ſowed in a ground but newly mucked. Hee that mindeth to ſow at the fall of the leafe, muſt in the month of September before, ſpread his dung, turne it in with the plough, and ſo incorporate it with the ſoile preſently after a ſhower of rain. Even ſo alſo, if a man purpoſe to ſow in the Spring, let him in the Winter time diſpoſe of his mucke upon the lands and ſpread K it. The ordinarie proportion is, to lay eighteen tumbrels or loads therof upon every acre. Thrown abroad it muſt bee alſo before it bee dried, and ere you ſow, or elſe ſo ſoone as the ſeed is in the ground, that it may be harrowed in with the corne. But in caſe this manner of dunging be neglected, it followeth then, before that you doe harrow, to ſtrew the ſhort ſmall dung in manner of duſt gathered out of Coupes, Mues, and Bartons, where ſoule are fed; or elſe to caſt Goats-treddles upon the land, as if you would ſow ſeed, and then with rakes and harrowes to mingle it with the ſoile.

To the end now that we may determine fully as touching this care alſo, belonging to dung, every theepe or goat and ſuch ſmall cattell, ſhould by right yeeld ordinarily in dung one load in *or rather (after *Columella*) thirtie daies. *ten daies: and every head of bigger beaſts ten load: for unleſſe this proportion and quantitie of L mucke bee gathered, plaine it is, that the graunger or maiſter of Husbandrie, hath not done his part, but failed in littering of his cattell. Some hold opinion, that the beſt way of mucking a land is, to fold theepe and ſuch like ſmall cattell thereupon, even in the broad open field; and to this purpoſe they encloſe or imparke them within hurdles. In a word, a ground not dunged at all, groweth to be cold: and againe if it be overmuch dunged, the heart therof is burned away. And therfore the better and ſafer way is to mucke by little at once and often, rather than to overdoe it at once. The hotter that a ſoile is, it ſtands by good reaſon, that the leſſe compoſt it requireth.

Chap. xxiiii.

M

Of good ſeed-corne. The manner of ſowing ground well. How much ſeed of every kind of graine an acre will take. The due ſeaſons of Seednes.

THe beſt corne or Zea for ſeed, is of one yeares age, two yeares old is not ſo good: that of three, is worſt of all: for beyond that time, the heart is dead, and ſuch corn will never ſpurt.

And

A And verily this that is ſaid of one ſort, may bee verified of all kinds. The corne that ſettleth to the bottome of the mowgh in a barne toward the floore, is ever to be reſerved for ſeed. And that muſt needs bee beſt, becauſe it is weightieſt; for therein lieth the goodneſſe: neither is there a better way to diſcerne and diſtinguiſh good corne from other. If you ſee an eare of corn having graines in it here and there ſtaring diſtant aſunder, be ſure the corne is not good for this purpoſe, and therefore it muſt be caſt aſide. The beſt graine looketh reddiſh, and being broken betweene ones teeth, retaineth ſtill the ſame colour within: the worſe corne for ſeed is that, which ſheweth more of the white floure within.

Furthermore, this is certaine, that ſome grounds take more ſeed, and ſome leſſe. And hereby verily doe Husbandmen gather their firſt preſage religiouſly, of a good or bad harveſt: for when
B they ſee the ground ſwallow more ſeed than ordinarie, they have a ceremonie to ſay and beleeve, that it is hungrie and hath greedily eaten the ſeed. When a man is to ſow a moiſt ground, good reaſon there is to make the quicker diſpatch, and to doe it betimes, for feare leaſt raine come to rot it. But contrariwiſe, in drie places it is not amiſſe to ſtay the later and attend till raine follow, leaſt by lying long in the earth, and not conceiving for want of moiſture, it looſe the heart, and turne to nothing. Semblably, when a man ſoweth earely, hee muſt beſtow the more ſeed and ſow thicke, becauſe it is long ere it ſwell & be readie to chit. But if he be late in his ſeednes, he ſhould caſt it thin into the ground, for thicke ſowing will choke and kill the ſeed. Moreover, in this feat of ſowing there is a pretie skill and cunning, namely, to carie an even hand, & caſt the ſeed equally throughout the whole field. The hand (in any caſe) of the ſeeds-man muſt agree with his gate
C and march: it ought alwaies to goe juſt with his right foot. Herein alſo this would not bee forgotten, That one is more fortunate and hath a more luckie hand than another, and the ſeed will proſper better and yeeld more encreaſe that ſuch a one ſoweth: a hidden ſecret ſurely in Nature, and whereof we can yeeld no ſound reaſon. Over and beſides, this is to be conſidered, That corn comming from a cold ſoile, muſt not be ſowne in a hot ground; nor that which grew in a forward and haſtie field, ought not to be transferred into lateward lands. Howſoever, ſome there bee that have given rule cleane contrarie: howbeit, they have deceived themſelves with all their fooliſh curioſitie.

Now as touching the quantitie of ſeed that muſt be given, according to the varietie both of ground and grain, theſe principles following are to be obſerved. In a reaſonable good ground of
D a meane temperature, an acre in ordinarie proportion will ask of common wheat Triticum, or of the fine wheat Siligo, five Modij: of the red wheat Far, or of *Seed [for ſo we call a kind of bread-corne] ten Modij; of Barley ſixe; of Beanes as much as of common wheat, and a fift part or one Modius over; of Vetches twelve; of Cich-peaſe the greater, Cichlings the leſſe, & of Peaſe, three; of Lupines ten; of Lentils three; [as for theſe, folke would have them ſowed together with drie dung] of Ervile ſix; of Silicia or Feni-greeke ſix; of Phaſeols or Kidney beanes foure; of Dradge or Balimong for horſe-provender, twentie; but of Millet and Panicke foure Sextars. Howbeit, herein can be ſet down no juſt proportion, for the ſoil may alter all. And in one word, a fat ground will receive more, and a leane leſſe. Beſides, there doth ariſe a difference another way, in this maner: if it be a maſſie, faſt, chalkie, and moiſt ground, you may beſtow in one acre thereof ſixe Mo-
E dij, either of common wheat or of fine wheat Siligo; but in caſe it be looſe and light, naked, drie, and yet in good heart and free, it will aske but foure. For the leaner that a ground is, unleſſe it be ſowne ſcant, and the ſtraw come up alſo thin, the ſhorter eare will the corn have, & the ſame light in the head, and nothing therein. Be the ground rich and fat, yee ſhall ſee out of one root a number of ſtems to ſpring; ſo that although the graine be thin ſowne, yet will it come up thicke, and beare a faire and full eare. And therefore in an Acre of ground you ſhall not doe amiſſe, to keepe a meane betweene foure and ſixe Modij, having reſpect to the nature of the ſoile. And yet ſome there be that would have [of Wheat] five Modij ſowne at all adventure, and neither more nor leſſe, whatſoever the ground be. To conclude, if the ground be ſet with trees, or lying on the ſide of an hill, all is one, as if it were leane, hungrie, and out of heart. And hereto may be reduF ced that notable Aphoriſme, worthie to bee kept and obſerved as a divine Oracle, Take not too much of a land, weare not out all the fatneſſe, but leave it in ſome heart. Over and above the Rules aforeſaid, *Accius* in his Treatiſe called Praxidicus, commeth in with one more of his owne, Sow your ground (ſaith hee) when the Moone is in any of theſe ſignes, Aries, Gemini, Leo, Libra, and Aquarius. And *Zoroaſtres* hath another Aſtronomicall obſervation

*He meaneth Zea or Spelt.

by

by himselfe, that the Sunne should be entred into Scorpio, and past twelve degrees thereof, the Moone being at the same time in Taurus. G

Now followeth the deepe question to be discussed & determined, As touching the fit time and season of sowing corne: which I have put off and deferred to this present place. And this would bee handled and considered upon with exceeding great care and regard; as depending for the most part of Astronomie, and requiring good insight in the course and motion of the Planets, in the order also and influence of the fixed stars: and therefore I purpose to lay abroad the opinions and judgements of auncient writers principally in that behalfe. To begin therefore with *Hesiodus*, esteemed the prince and cheefe of all those that gave precepts of Agriculture; he hath set downe one certaine time of Seednes, to wit, presently after the fall or occultation of the star Vergiliæ, *i.* the Brood-hen: and no marvell, for he wrate that booke of his in Bœotia, a countrey in H the very heart of Hellas or Greece, respectively to his owne countreymen and that climate: and in very truth that was the time of sowing there, as we have noted and specified alreadie. The best Authors of name, and who have written most exactly of this argument, are all agreed upon this point and conclusion, saying, That as all foules of the aire and four-footed beasts have their due season of engendring; even so there is a certaine time, when as the earth is as it were in the ruit, and hath a lust to be conceived. The Greekes in generall tearmes have described that season in this wise, namely, When the earth is hote and moist. *Virgil* giveth a precept to sow the common wheat Triticum, and the red bearded wheat Far, after the retrait or departure aforesaid of the Brood-hen Vergiliæ. As for Barley, he would have it cast into the ground between the Æquinox in Autumne, and the Winter Sunne-steed: but Vetches, Kidney beanes, and Lentils, at the set- I ting or going downe of the star Bootes. Which being so, it would do well to digest the rising and falling both of these stars and also of others, into their set daies; to shew (I say) at what fixed time they appeare, and when againe they are hidden. Some there bee who are of opinion, That it is good sowing even before the occultation of the said star Vergiliæ, but in a drie ground only and in hote countries: for so (say they) will the seed swell & mortifie the better; which the naturall humiditie onely of the earth is sufficient to putrifie and prepare so, that when the next raine falleth, it will be readie to spurt and chit within a day. Others attend and wait seven daies after the retrait of the foresaid Brood-hen, for the raine that commonly falleth about that time. There be again that begin to sow in cold regions immediately after the Æquinox in Autumne: but in hot countries they be later in their seednes, for feare that the corne would bee Winter-prowd, and grow K overmuch before the cold weather come. But all writers accord herein, that it is not good sowing about the Winter Solstice, when the daies be at the shortest: the reason is very pregnant & apparant, for Winter seed if it be sowne before midwinter, will spurt and spring at the seven-nights end; sow after that time, you shall have it lie in the ground fortie daies before it make any shew of comming up. Many make hast and put their seed into the ground betimes, and this proverbe they have usually in their mouth, *Well may overtimely and hastie sowing oftentimes faile, but late sowing shall ever misse and deceive the Maister.* Contrariwise, others there are of this mind, That it were better staying untill the Spring to doe it well & surely, rather than to sow in a bad Autumne, and put it to the hazard of loosing all. If there bee no remedie therefore, but to take the Spring season, a man must make choice of the time betweene the middest of Februarie [at what time as L the West wind Favonius doth rise and begin to blow] and the Æquinox in March. Some have no regard at all to the constitution and figure of the heavens in this case; thinking the rising and falling of starres, the course and motions of cœlestiall bodies, to be frivolous matters & nothing pertinent to this purpose, but content themselves onely with observing the cardinall seasons of the yeare, and some other times, in a generalitie. In the Spring (say they) sow Lineseed, Otes, and Poppies, and so hold on unto the festivall holydaies of *Minerva*, called Quinquatrus; like as at this day throughout all Lombardie and beyond the Po, they goe by no other rule. As for Beanes, and the fine wheat Siligo, put them into the ground in the moneth of November. Let the Winter red wheat Far take his fortune and bee enterred, from the end of September, untill the middest or fifteenth day of October. Others goe beyond that day, and continue their Seed- M nes unto the Calends or first day of November. Now, as these men have no regard at all to the speculation of Nature, and the course of the stars; so the other beforenamed, are given too much thereto, and rapt they are so high among the stars and planets, that their owne eies bee dazeled therewith: and besides, their subtilties and quiddities doe blind others, considering that the practise

A ſide of theſe matters muſt paſſe through the hands of ruſticall peaſants, who are ſo far off from conceiving Aſtronomie, & the conſtellations above, that they know not one letter of the book, nor never learned their A.B.C. Howbeit, wee cannot chuſe but confeſſe, that the true reaſon and knowledge of Agriculture, dependeth principally upon the obſervation of the order in heavenly bodies: for *Virgil* ſaith very well, That before all other things, a husbandman ſhould be skilfull in the winds, and have the foreknowledge and prediction of them: alſo to have an inſight into the nature and influence of the ſtarres: and in one word, to obſerve both the one and the other, as well as the Sailers and mariners at ſea. Certes, a hard peece of worke it is, and infinite; and ſmall hope I have that ever I ſhall be able to drive into their heads that are ſo ignorant and groſſe of conceit, this high learning and heavenly divinitie, as touching the Planets, the
B fixed Starres, togither with the reaſon of their orderly motions and cœleſtiall powers: howbeit conſidering the great profit that may ariſe and grow thereupon to mankind, I will caſt a proffer and give the attempt to make ploughmen Aſtrologers, or Aſtronomers at leaſtwiſe, if it may be. But firſt my purpoſe is, to lay open before their eies certaine difficulties (which troubled alſo ſome of the auncient writers, and thoſe not unskilfull in this part of Philoſophie) as touching the courſe and order of the Starres: which being not only diſcovered, but alſo aſſoiled and cleered, their minds with better contentment may goe from the contemplation of heaven to the reſt of Natures workes, and ſee thoſe things by the effects, which they could not poſſibly foreſee by their cauſes.

C

Chap. xxv.

*The times and ſeaſons of the riſing and ſetting of Starres, digeſted into order, as well by * day as night.*

* i. Evening and morning.

IN the firſt place, there offereth it ſelfe unto us one difficultie above the reſt, ſo intricate, as hardly is it poſſible to reſolve upon it; namely, as touching the very daies of the yeare, how many they be in number; and the revolution of the Sunne, how and when he returneth again to the ſame point? For whereas ſome doe account the Solare yeere to be 365 daies juſt; others adde thereunto certaine quadrants or fourth parts of day and night togither, to wit, ſix houres every yeere; which being put togither, make the fourth yeare Biſſextile or Leape yeare: ſo as
D it is in manner impoſſible to aſſigne the certaine daies and houres of the Starres apparition or occultation. Over and beſides, how obſcure, how darke and confuſed all this matter is, appeareth manifeſtly herein, That the times and ſeaſons of the yeare prefixed by auncient writers fall not out accordingly; and namely, in the obſervation of the winter ſeaſons and tempeſts by them ſet downe: for one while you ſhall have them to prevent and come ſooner by many daies than ordinarie, which the Greeks call προχασμάζειν; another while to draw back and come later, which they tearme ἐπιχασμάζειν. Yea and for the moſt part this hapneth, by reaſon that the influence of the cœleſtiall ſtars reacheth ſooner or later to the earth, and thereafter ſheweth the effects: ſo as the common people, when they ſee the ſaid foule weather paſt, and all cleare and faire again, ſay then and not before, That ſuch a Planet or Star hath perfourmed his courſe, and is upon
E the point of his Tropicke or returne againe. Moreover, conſidering that all theſe occurrents depend much upon thoſe ſtarres which bee ſet and fixed in the firmament, yet ſhall yee have the Planets play their parts beſides, which by their motions and operations, worke no ſmall effects upon the earth, as we have ſhewed before; and namely, cauſing between-whiles ſtorms of raine and haile out of courſe: no marveile then, if they trouble our heads & put us out of our account, interrupting that order of the fixed Stars, upon which we conceived and built our hope of the faire ſeaſon, and our new ſpring. And herein, not wee onely that be men faile of our reckoning, but other living creatures alſo be deceived, which naturally have much more ſenſe & underſtanding of theſe workes of Nature, than wee, in as much as their whole life ſtandeth thereupon: for the Summer birds (as great fore-ſight as they have of ſuch ſeaſons and tempeſts) are over-taken
F and killed by Winter froſts and cold, comming ſooner than they looked for, and before they be gone out of the countrey: as alſo winter-foules miſcarrie by the hote weather of ſummer, continuing longer than it was woont, and holding on ſtill after they be come. Hereupon it is, that *Virgil* expreſſely willeth us to learne throughly the skill of the wandering Stars or Planets alſo, and principally giveth us warning to marke the courſe of that cold Planet Saturne.

But

But now to come more particularly to the ſignes which fore-token the Spring: ſome there be G
that goe by the Butterflie, and hold that their brood comming abroad, is an aſſured token that the Spring is come, for that theſe creatures ſo feeble, are not able to abide any cold: howbeit, this was checked that very yeare, wherein I wrote this Booke or Hiſtorie of Natures worke: for ſeen it was and marked very well, that three flights of them one after another were killed with the cold weather that ſurpriſed them thrice, for that they were ſtirring too earely, and came abroad over-ſoone. Yea, and the very birds who are our gueſts in warme weather, viſited us five or ſixe daies before Februarie, and made a goodly ſhew of a timely Spring, putting us in good hope, that all cold weather was gone: howbeit, there enſued a moſt bitter after-winter ſtreight upon it, that nipped and killed them in manner every one. Hard and doubtfull therefore is the caſe, that wher-as firſt and principally we were to fetch our rule from the heavens to guide and direct us, then af- H
terwards we ſhould be driven to goe by other ſignes and arguments meere conjecturall. But a-bove all, the cauſe of this incertitude and difficultie, is partly the convexitie of the cope of hea-ven, and partly the diverſe climates obſerved in the globe of the earth: by meanes whereof, one and the ſame ſtar ſeemeth to riſe at ſundrie times in diverſe countries, and appeareth ſooner or la-ter to ſome than to others: and therefore the cauſe depending thereupon, is not in all places of like validitie, nor ſheweth the ſame effects alwaies at the ſame times. And yet there is one difficul-tie more, ariſing from thoſe Authors who writing of one and the ſame thing, have delivered di-verſe opinions, according to the ſundrie climates wherein they were, at what time as they obſer-ved the figure and conſtitution of the heavens. Now were there of theſe Aſtronomers three Sects, to wit, the Chaldeidians, the Ægyptians, and the Greekes. To which there may bee added a fourth, which among us *Cæſar* the Dictatour firſt erected: who obſerving the courſe of the Sun, I
and taking with him the adviſe alſo of *Soſigenes* (a learned Mathematician and skilfull Aſtrono-mer in his time) reduced the yeare unto the ſaid revolution. Howbeit, in this calculation of his, there was found an error, and ſhort he came of the marke which he aimed at, by reaſon that there was no biſſextile or leape yeare by him inſerted, but after twelve yeares. Now, when it was obſer-ved by this reckoning, that the Sunne had performed his revolution ſooner than the year turned about, which before was wont to prevent the courſe of the Sunne, this error was reformed; and af-ter every fourth yeare expired, came about the Biſſextile aforeſaid, and made all ſtreight. *Soſige-nes* alſo himſelfe, albeit hee were reputed a more curious and exquiſite Mathematician than the reſt, yet in three ſeverall treatiſes that he made, retracting or correcting that in one booke which
he had ſet downe in another, ſeemed evermore to write doubtfully, and left the thing in as great K
ambiguitie and undetermined as he found it. As for theſe writers, whoſe names I have alleadged and prefixed in the front of this preſent volume now in hand, they have likewiſe delivered their opinions as touching this point: but hardly ſhall you find two of them in one & the ſame mind. I eſſe marvell then, if the reſt have varied one from another, who may pretend for their excuſe the diverſe tracts and climates wherein they wrote. As for thoſe who lived in the ſame region, and yet wrote contrarie, I cannot tell what to make of them. Howbeit, I care not much to ſet downe one example of their diſcord and diſagreement. *Heſiodus* the Poet (for under his name alſo there goeth a Treatiſe of Aſtrologie) hath put downe in writing the matutine ſetting of the ſtar Ver-giliæ (which is the occultation thereof by the raies and beames of the Sunne toward morning) L
to begin ordinarily upon the day of the Æquinox in Autumne. *Thales* the Mileſian ſaith, That it falleth out upon the five and twentieth day after the ſaid Æquinox. *Anaximander* writeth, That it is nine and twentie daies after: and finally, *Euctemon* hath noted the eight and fortieth day fol-lowing the ſaid Æquinox, for the retrait or occultation of the forenamed Brood-hen ſtar Vergi-liæ. Loe what varietie there is among theſe deepe clearkes and great Aſtrologers.

For mine owne part I hold well with *Cæſars* calculation, and will keepe me to his obſervations as neare as I can, for that the ſame will fit beſt with our meridian here in all Italie. Yet never-theleſſe I will not ſticke to ſet downe the opinions of others, becauſe my deſſeigne tendeth not to one particular place alone, but I purpoſe and profeſſe to repreſent unto the Reader the univerſall Hiſtorie of Nature, and the whole world. But my meaning is not to rehearſe the names of everie M
Author one by one (for that were a tedious peece of worke, and would require a long traine of ſuperfluous words) but onely to put downe the regions of every climate, and that as ſuccinctly and breefely as I can. Where, by the way I muſt advertiſe the Readers, that they remember well this one thing, how when for brevities ſake I nominate the land or region Attica, they muſt with-all

A all underſtand the Iſlands Cyclades: when I name Macedonie, I comprehend therewith Magneſia and Thracia: under Ægypt I compriſe Phœnice, Cyprus, and Cilicia: under Bœotia, the regions of Locris and Phocis: and in one word, alwaies the tracts and countries adjacent and confining together. *Item*, In making mention of Helleſpontus onely, I take together with it Cherſoneſus, and all the continent or maine firme land, as farre as to the mountaine Athos: in naming Ionia, I reckon alſo Aſia the leſſe or Natolia, and the Iſles thereto adjoining: under the name of Peloponneſus I count Achaia, and other lands in that climate lying to the Weſt. Finally, the Chaldæans ſhall make demonſtration, as in a map, of Aſſyria and Babylonia. As for Affricke or Barbarie, Spaine, and Fraunce, marvell not if I paſſe them over in ſilence: for there is not a writer in all theſe nations, one or other, who hath either obſerved or penned down the time when theſe
B fixed ſtars riſe or fall. Howbeit, it were no hard matter to come to the diſtinct knowledge thereof in thoſe climates and countries alſo, by the meridionall lines and conformitie of the Parallele circles, which I digeſted orderly in the ſixt booke of this worke. For thereby a man may underſtand the uniforme agreement in the poſition of the heaven, not onely for whole climates and countries, but alſo for every ſeverall cittie by it ſelfe, under the ſame meridian or Parallele: following ſtill the knowne paralleles of theſe regions which we have named, and taking withall the elevation of any circle pertaining to every ſuch land as a man will ſeeke, and reſpective to the riſing of the ſtars, according to the equall ſhaddowes, throughout all thoſe parallele circles. Moreover, it ought to be ſhewed and declared that ordinarily the times and ſeaſons have their temperature and influence every foure yeares together: and thoſe lightly returne the ſame without any great
C alteration, from yeare to yeare duly according to the courſe and recourſe of the Sunne, during that tearme: marie in eight yeares they ſenſibly doe encreaſe, namely by what time as the Moone is in her hundreth revolution.

Now all the knowledge of the heavens pertinent to Agriculture, ſtandeth principally upon three ſorts of obſervations, to wit, The riſing of the fixed ſtars; the ſetting of the ſame; & the four cardinall points, to wit, of the two Tropickes or Sunſteads, and the double Æquinox, which devide the whole yeare into foure quarters and notable ſeaſons. Where note, that the riſe and fall of thoſe ſtars beforeſaid is to be conſidered and taken two waies. For firſt when the Sunne approcheth unto them with his beames, they be hidden and no more ſeene: likewiſe, after his departure they ſhew themſelves againe: and as the one, me thinkes, might have been more aptly cal-
D led an Apparition than a Riſing, ſo wee ſhould have framed our tongue in common ſpeech to have tearmed the other Occultation, rather than Setting. Secondly, according as the ſaid ſtars begin either to ſhine out or bee hidden in the morning before the Sun be up, or at evening after the Sunne is ſet, they be ſaid to riſe and goe downe, and thereupon are named * Matutine or Veſpertine, Orientall or Occidentall, according as the one or the other happeneth unto them in the twy-light, morning or evening. Certes, when they are to be ſeene Matutine or Veſpertine, it muſt be at the leaſt three quarters of an houre either before the Sunne is up, or after he is downe: for within that ſpace there is no looking after them. Moreover, ſome ſtars there bee that riſe and fall twice. But take this with you, ere I proceed further, that all this ſpeech of mine is to bee underſtood of the fixed ſtars, which beeing ſettled faſt in the skie, move not of themſelves: and in no
E wiſe, of the Planets.

*ortus & occaſus Heliacus.

*ortus & occaſus Cyniciis.

As touching the foure cardinall ſeaſons of the yeare, whereby it is devided into foure quarters: limitted they be according to the light more or leſſe, and as the daies be longer or ſhorter: for ſo ſoone as the Winter Sunneſtead is paſt, the daies do lengthen; and by that time that ninetie daies and three houres be gone and paſt, they be juſt as long as the night, & this is called the Spring Æquinox. From which very day for ninetie three daies together & twelve houres, namely, unto the Summer Sunneſtead, the daies be longer than the night, and ſo continue untill the Autumne Æquinox, at what time the daies and nights be equall againe; from which time they ſhorten and decreaſe as they grew in length & encreaſed before, for eightie nine daies together, and three houres, untill the foreſaid Winter Sunneſtead, when as the daies bee ſhorteſt. And
F here you muſt note, that in all theſe additions of houres at this preſent, I meane thoſe onely that be Æquinoctiall, which devide the day and night equally in foure and twentie parts, and not the common houres of any other day artificiall whatſoever. Alſo take this with you, that all theſe diſtinctions and diviſions of the foure ſeaſons, begin alwaies in the eight degree of thoſe ſignes under which the Sunne is at thoſe times: as for example, The winter Sunneſtead or ſhorteſt day

of

of the yeare, called in Latine Bruma, falleth out in the eight degree of Capricorn, which lightly is upon the *18 day before the Calends of Ianuarie. The Spring Æquinox, when nights and daies be of a length in the eight degree of Aries. Semblably, the Summer Sunneſtead or longeſt day of the yeare, is alwaies when the Sunne is entred eight degrees into Cancer. Laſt of all, the other Æquinox in Autumn, when day and night is equall, lighteth upon the eight degree of Libra. And certes, ſeldome or never ſhall you ſee any of theſe foure daies without evident ſhew of ſome notable change in the weather. Againe, theſe cardinall ſeaſons or quarters of the year, admit alſo their ſub-diviſions ſtill into ſome notable and ſpeciall times, obſerved in *the very middle ſpace from the one and the other. For betweene the Summer Sunneſtead and the Æquinox in Autumne juſt upon the five and fortie day after the ſame Sunneſtead, the retrait or ſetting of the ſtar called in Latine Fidicula, *i.* the Harpe, beginneth the Autumne. Likewiſe, betweene that Æquinox and the Winter Sunneſteed or ſhorteſt day of the yeare, the Matutine or morning fall of the ſtar Vergiliæ, upon the three and fortieth day after the ſaid Æquinox, ſetteth the beginning of the Winter. So likewiſe upon the five and fortieth day betweene mid-winter or the ſhorteſt day of the yeare and the Spring Æquinox, the blowing of the Weſterne wind Favonius beginneth the Spring. And laſt of all, upon the three and fortieth day from the ſaid Æquinox toward the Summer Sunneſteed, at what time as the ſtar Vergiliæ doth riſe Matutine, begins the Summer.

* 15 of December.

* Called *Interuella* afterward in this chapter: and containe much about ſix weekes.

But to returne againe to our Agriculture, begin I will at the Seednes of Frument corne, that is to ſay, at the riſing or apparition of the ſtar Vergiliæ in the morning, without making any mention at all of other petie ſtars, for to interrupt the traine and courſe of our Treatiſe, and to heape difficulties one upon another; conſidering that the fierce and vehement ſtar Orion is departed a great way off from us by that time. I am not ignorant, that many fail to ſowing corne long before, & prevent this time, beginning their Seednes within eleven daies after the Æquinox in Autumne, namely, at the approch and riſing of the ſtar Corona, *i.* the Crowne: promiſing themſelves aſſuredly to have raine upon it for certaine daies together. *Xenophon* would not have us begin to ſow before that God give us ſome good ſigne and token ſo to doe. And *Cicero* our countreyman expounding this ſaying of *Xenophon*, taketh the raines in *November to bee that ſigne which God giveth: whereas in very deed the true and undoubted rule to goe by, is to make no great haſt into the field for to ſow, before the leaves begin to fall; and this every man holdeth to be at the very occultation or retrait of the ſtar Vergiliæ. Some as we have beforeſaid, have obſerved it about three daies before the Ides of November: and for that the ſaid ſtar is ſo evident in the heaven, and eaſieſt to be knowne of all others, called it is by the name of a garment hanging out at a Brokers ſhop. And therefore by the fall or retrait thereof, as many men as have a care and fore-caſt to prevent the covetous dealing of the merchant Taylor (as commonly ſuch occupiers lie in the wind for gaine) gueſſe aforehand what Winter will follow: for if it bee a cloudie ſeaſon when this ſtar doth retire, it threateneth a rainie Winter, and then theſe merchants preſently raiſe the price of the clokes which they ſell: but if the weather be faire and cleare at the ſetting or occultation thereof, it ſheweth a pinching and hard Winter toward: and then they hold other garments alſo very deere. But this Husbandman of ours, who cannot skill at all to look up and to learne the order and poſition of the heavens, muſt ſpie this ſigne of Winter among his briers and brambles, hee muſt find (I ſay) the time of Seednes as hee lookes downeward upon the ground, namely, when hee ſees the leaves fallen and lying under his feet. Thus may a man know the temperature of the climate, and the yeare, according as hee perceiveth the leaves bee fallen more at one time than another, ſooner alſo in ſome places, and later elſewhere. For as the ſeaſon is forward or late, as the climate alſo is affected, ſo are the trees knowne to ſhead their leaves accordingly. And in very truth, this is the trueſt ſigne of all others. And the beſt thing therein is this, that being generall throughout the whole world, and yet peculiar to each place, it never faileth: A man might make a wonder hereat, if hee did not ſee and remember, that upon the very ſhorteſt day in the year, even in midwinter when the Sun is entred Capricorn, the herb Peniroyall uſeth of it ſelfe to floure, either ſet in chaplets, or otherwiſe hanging and ſticking in the ſhambles; ſo willing is Nature to ſhew us all her ſecrets, and to keepe nothing hidden from us. For loe what ſignes, and markes ſhe hath given us, whereby we might know the time of ſowing corn: and verely, this is the onely true and infallible direction, grounded upon approoved experience, and the ſame ſhewed firſt by dame Nature; for by this dropping and fall of leaves, what doth ſhe elſe teach

*Called by our Husbandmen Gore-moone.

G H I K L M

A teach and counſell us but to have our eie upon the ground, and to caſt ſeed into it: aſſuring us of a certaine ſupplie of dung and compoſt by overſpreading the ground with ſuch mullock, that ſoone will turne into mucke? what doth ſheeelſe(I ſay) but by covering the earth in this manner with leaves, ſhew how carefull ſhe is to defend it againſt hard froſts and pinching winds, and in one word, thereby putteth us in mind to make the more haſt and get our ſeed under mould? As for *Varro*, he is of the ſame opinion for Beanes alſo, and willeth us to obſerve the ſaid rule in ſowing them at the fall of the leaſe. Others are of this mind, that the beſt ſowing thereof is in the full Moone. But for Lentils, we ſhould attend the laſt quarter toward the chaunge, to wit, from the five and twentieth day to the thirtieth. Alſo, that Vetches muſt be ſowed at the ſaid age of the Moone: for in ſo doing we ſhall preſerve ſuch pulſe from the naked ſnaile. Howbeit, ſome others
B there bee, that indeed would have theſe kinds of pulſe to bee ſowed at this time of the yeare and age of the Moone for provender and forrage to beſpent out of hand; marie if wee would keepe the ſame for ſeed, then we ſhould take the ſeaſon of the Spring.

Beſides thoſe rules and tokens above ſpecified, there is one more, which Nature upon an extraordinarie providence over us, hath preſented unto our eies after a wonderfull manner, the which *Cicero* expreſſeth in theſe tearmes:

Iam vero ſemper viridis, ſemperq́ gravata
Lentiſcus, triplici ſolita eſt grandeſcere fœtu:
Ter fruges fundens, tria tempora monſtrat arandi.

C
The Maſticke tree,
All times you ſee,
Is clad and richly dight,
With greene in cold,
With fruit three-fold,
A faire and goodly ſight.

As ſhee therefore,
By Natures lore,
Doth fruit thrice yearely beare:
So thereby wee,
Know ſeaſons three,
Our land to duly eare.

Of which three ſeaſons, one is appropriate for the ſowing both of Poppey and alſo of Lineſeed. But ſince I have named Poppey, I will tell you what *Cato* ſaith as touching the ſowing thereof: Vpon that land (quoth hee) where you meane to ſow Poppey, burne your winding rods; the
D cuttings alſo and twigs of vines, which remained and were left at the pruning time: when you have burnt them, ſow wild Poppey ſeed in the place; for it is a ſingular medicine beeing boiled up to a ſyrrup in honey, for to cure the maladies incident to the chawes and throat. As for the garden Poppey, it hath an excellent and effectuall vertue to procure ſleepe. And thus much concerning Winter corne and the Seednes thereof.

Chap. xxvi.

A ſummarie and recapitulation of all points of Husbandrie: and to what outworkes in the field a Husbandman ſhould be employed, reſpectively to every moneth of the yeare.

E
BVt now to compriſe under a certaine briefe Abridgement and Breviarie, all points of Husbandrie togither: At the ſame time before-named, [to wit, at the fall of the leafe] it is good alſo to lay dung unto the roots of trees; likewiſe to mould and banke vines: and one workman is ſufficient for one acre. Alſo, where the nature of the ground will bear it, the husbandman ſhall not doe amiſſe to disbraunch and lop his tree-groves, to prune his vineyards, to hollow the ground of his ſeminaries and nource-plots with mattocke and ſpade, & dreſſe the mould light; to open his ſluces and trenches for water-courſe, to drive and draine it out of the fields; and finally, to waſh his wine-preſſes firſt, and then to ſhut and lay them up drie and ſafe. *Item*, after the Calends or firſt day of Novembre, let him ſet no Hens upon egs untill the winter Sunſtead
F be paſt: when that time is come and gone, ſet Hens hardly, and let them couve thirteene egs; marry better it were all ſummer long to put ſo many under them: for in winter fewer will ſerve; howbeit never under nine.

Democritus giveth a gueſſe what Winter we ſhall have, by the very day of the Winter Sunſtead: for looke what weather is then and for three daies about it, the like winter (he ſuppoſeth)

will enſue. Semblably, for the Summer, hee goeth by the other Sunſtead or longeſt day of the G
yeare: and yet commonly for a fortnight about the ſhorteſt day in the yeare, (to wit, during the time that the foules Halcyones doe lay, couve, and hatch their eggs in the ſea) the winds lie and the weather is more mild and temperate. But as well by theſe ſignes as all other whatſoever, we muſt gueſſe the influences and effects of the Stars, according to the event, within ſome latitude of time; and not ſo preciſely to limit and tie them alwaies to certaine daies prefixed, as if they were bound to make their apparance peremptorily in court, juſt then, and faile not.

Moreover, in mid-winter, meddle not at all with vines, touch them not in any hand, but let them alone. What then is the Husbandman to doe? Mary then (quoth *Hyginus*) after ſeven daies be once paſt from the Sunſtead, he is to refine his wines from the lees and let them ſettle, yea and to poure them out of one veſſell into another, provided withall, that the moone be a H
quarter old. Alſo about that ſeaſon (to wit, when the Sunne is in Capricorne) it is not amiſſe to plant Cherritrees, and ſet their ſtones: then is it good alſo to give oxen Maſt to feed them; and one Modius or pecke is ſufficient to ſerve a yoke at one refection: allow them more at once, you glut them and fill them full of diſeaſes: but at what time ſoever you make them this allowance, unleſſe you hold on thirtie daies togither, (folke ſay) they will be ſcabbed and mangie when the ſpring commeth, that you will repent for cutting them ſo ſhort. As for felling timber trees, this was the proper ſeaſon which we appointed heretofore. All other winter workes for an husbandman to be buſied in, would be done in the night for the moſt part: ſit up hee muſt late, and riſe betimes by candle-light, and watch hardly about them, for that the nights bee ſo much longer than the daies: let him a Gods name, find himſelfe occupied with making wicker baskets & hampers, winding of hurdles, and twiſting of frailes and paniers: let him thwite torch-wood taperwiſe for linkes and lights: and when he hath by day-light made readie and prepared thirtie poles or railes for vines to run on, and ſixtie ſtakes or props to ſupport them, hee may in the evening I
make five poles or pearches, and ten forkes or ſupporters; and likewiſe as many early in the morning before day-light.

But now to come to *Cæſars* reckoning of the times and digeſtion of the cœleſtiall ſigns: theſe be the notable ſtarres which are ſignificant and doe rule that quarter which is betweene the winter Sunſtead and the riſing of the Weſterne wind Favonius. Vpon the third day (ſaith hee) before the Calends of Ianuarie, which is the thirtieth day of December, the Dog-ſtarre goeth downe in the morning: upon which day in Attica and the whole tract thereto adjoyning, the ſtarre Aquila, [*i.* the *Æ*gle] ſetteth (by report) in the evening, and looſeth her light. The even K
before the Nones of Ianuarie, *i.* the fourth day thereof by *Cæſars* account [I meane for the meridian of Italie] the Dolphin ſtarre riſeth in the morning, and the morrow after, the Harp-ſtarre Fidicula: upon which day, in Ægypt, the ſtarre Sagitta, [*i.* the Arrow] ſetteth in the evening. *Item*, from that time to the ſixth day before the Ides of Ianuarie, [*i.* the eigth day of that month] when as the ſame Dolphin goeth downe or retireth out of ſight in the evening, uſually we have in Italy continuall froſt and winter weather: as alſo when the ſunne is perceived to enter into Aquarius, which ordinarily falleth out ſixteen daies before the Calends of Februarie, [*i.* the ſeventeenth of Ianuarie.] As for the cleare and bright ſtarre called the Star-Royall, appearing in the breaſt of the ſigne Leo, *Tubero* mine authour ſaith, that eight daies before the Calends of Fe- L
bruarie, to wit, the 25 day of Ianuarie, it goeth out of our ſight in the morning: alſo over night before the Nones of Februarie, [*i.* the fourth day of the ſame moneth] the Harpe-ſtarre Fidicula goeth downe, and is no more ſeene. Toward the latter end of this quarter, it is good and neceſſarie to dig and turne up freſh mould with mattocke and ſpade againſt the time that roſes or vines ſhall be ſet, whereſoever the temperature of the climat will beare it: and for an acre of ſuch worke, ſixtie labourers in a day are ſufficient to doe it well. At which time alſo, old trenches and ditches would be ſcoured or new made. For morning worke before day, the husbandman muſt looke to his yron tooles, that they be ground, whetted, and ſharpned; that their ſteales, helves, or handles, be fitted and ſet to their heads; that ſhaken tubs, barrels, and ſuch like veſſels, be new cowped, bound with hoops, and calfretted; that their ſtaves be well ſcraped and cleanſed, or elſe M
new ſet into them. And thus much of this Winter quarter, as farre as to the comming of the Weſterne wind Favonius.

Now as touching the entrance of the new Spring, which is from the riſing of the ſaid wind to the Æquinox in March: *Cæſar* ſetteth downe for it the time, which for three daies togither is variable

A riable and inconſtant weather, to wit, ſeventeen daies before the Calends of March, which is the thirteenth of Februarie. Alſo eight daies before the ſaid Calends, which is the 22 of Februarie, upon the ſight of the * firſt Swallow; and the morrow after, upon which day the ſtar Arcturus riſeth Veſpertine, *i.* appeareth in the evening. In like manner, *Cæſar* hath obſerved, that the ſaid wind hath begun to blow three daies before the Nones of March, to wit, the fifth of March, juſt with the riſing or apparition of the Crab-ſtar Cancer. Howbeit moſt writers of Aſtrologie do aſſigne the firſt entrie of the Spring and the comming of this wind, to the eigth day before the Ides of March, which is the eigth of that moneth, when as the ſtar Vindemiator, *id eſt*, the Grape-gatherer, beginneth to appeare: at what time alſo the Northerly ſtarre called the Fiſh, doth ariſe: upon the morrow whereof, to wit, the ninth day, the great ſtarre Orion ſheweth

B himſelfe in his likeneſſe. In the region Attica where Athens ſtandeth, it is obſerved, that the ſtar Milvus, *i.* the Kite or Glede, appeareth then in that climat. *Cæſar* moreover noted, that the ſtar Scorpio riſeth upon the * Ides of March, thoſe fatall Ides (I ſay) that were ſo unfortunate unto himſelfe: alſo, that upon the 15 Calends of Aprill, which is the 18 of March, the foreſaid Milvus, *i.* the Kite-ſtar, appeareth to them in Italie: and three daies after, the Horſe-ſtar is hidden toward the morning. This is the freſheſt, the moſt buſie and ſtirring Intervall or time betweene, that husbandmen have; and yet therein be they oftenest deceived, for commonly called they are not to their worke the very ſame day that the wind Favonius ſhould by courſe blow, but when it begins to be aloft; which is a point to be conſidered and obſerved with right great regard: for if a man would take heed and marke well, this is that moneth wherein God giveth us that ſure

C and infallible ſigne which never faileth. Now from what quarter or coaſt this wind doth blow, and which way it commeth, albeit I have ſhewed alreadie in the ſecond booke of this ſtorie, yet will I ſpeake thereof more diſtinctly and exactly anon; meane while, from that day (whenſoever it hapneth) on which that wind beginneth to blow, come it ſooner (as namely, when it is a timely and forward Spring) or come it later, if it be a long winter (for it is not alwaies the * ſixth day juſt before the Ides of Februarie) from that time, I ſay, muſt the ruſticall paiſants fettle to their worke, then are they to goe about a world of toileſome labour, then muſt they plie their buſineſſe and make ſpeed to diſpatch thoſe things firſt that may not be deferred and put off: then or never would their ſummer three-month corne be ſown, their vines be pruned in manner aboveſaid, their Olive trees dreſſed and trimmed accordingly: Apple-tree ſtockes and ſuch like fruits,

D are then to be ſet and graffed; then is the time to be digging & delving in vineyards, to remove ſome young plants out of their ſeminaries, and digeſt them in order as they muſt grow, and to ſupply their plots with new ſeeds and imps: Canes and Reeds, Willows and Oſiers, Broome alſo would then ſome be ſet, and others cut downe: Elmes, Poplars, and Plane trees, ought then to be planted, as hath been ſaid before: then is the meeteſt ſeaſon to cleanſe the corne fields, to ſarcle and rid the winter-corne from weeds, and eſpecially the bearded red wheat Far: in doing whereof, this muſt be the certein rule to direct the husbandman, namely, when the root of the ſaid Far begins to have four ſtrings or threeds to it. As for Beans, they muſt not be medled withall in that order, before they have put out three leaves; and then verily they muſt be lightly gone over, and cleanſed rather with a light hooke, than otherwiſe. When Beanes be blowmed, for fif-

E teen daies togither they ought not to be touched. As touching Barley, it would not be * ſarcled or raked, but in a drie ground, and when the weather holds up. Order the matter ſo, that by the Æquinox in March, all your pruning and binding of vines be done and finiſhed. If it be a vineyard, foure men are enough to cut and tie an acre of vines: and if they grow to trees, one good workeman will be able to overcome fifteene trees in one day. This is the very time moreover of gardening and dreſſing roſe-plots or roſiers [whereof I meane to treat apart and ſeverally in the booke next following] of drawing vinets alſo, knots, and fine ſtorie workes in gardens: this is the only ſeaſon to make trenches and ditches: the ground alſo would now be broken up for a fallow againſt the next yeare, according to the mind and counſell of *Virgil* eſpecially, to the end that the Sunne might throughly parch and concoct the clots, and thereby make it more mellow for

F the Seednes. Howbeit I doe like better of their opinion (as the more thriftie and profitable of the twaine) who adviſe to plough no ground in the mids of Spring, but that which is of a mean temperature: for if it be rich and fat, preſently the weeds will over-grow & take up the ſeams and furrowes: againe, ſay it be poore and leane, the hot weather comming ſo ſoone upon the fallow, will dry it too faſt, ſpend all the moiſture, and kill the heart thereof, which ſhould maintaine the

* Whereupon the ſaid wind *Favonius*, is called *Chelidonias* and *Ornithias*.

* 13 of March: for upon that day was hee murdred.

* *i.* the ſeventh of Februarie.

* *Sarrito.*

ſeed to be ſowne therein. *Cato* ſetteth downe the Husbandmens worke for the Spring time, in G
theſe tearmes: Caſt trenches (quoth he) couch young braunches, and interre them for ſeminaries by way of propagation, in caſe the ground bee ſtrong, fat, and moiſt withall. Lay dung to your Elmes, Fig trees, Apple trees, and others of like fruit; to Olives alſo doe the like: neither forget to manure and muck your medow grounds; but all in a drie moone & about the change. Such fields as are not well watered, defend them as well as you can from the Weſt wind Favonius: downe with ſuperfluous weeds and rid them out of the way; but and if they be hurtfull beſides, plucke them up by the roots. Cleanſe Fig trees betweene, where need is: make new ſeminaries and nource-gardens, and repaire the old. All this would be done before the vine begin to floure. Moreover, ſo ſoone as the Peare tree ſheweth bloſſome, begin to plough leane, light, and ſandie grounds; but afterwards you may be bold to goe in hand with the fatteſt, faſteſt, and moſt H
wateriſh that be: let theſe (I ſay) be laſt tilled. And to conclude briefly, as touching this time of ploughing, let this be the marke and rule to guide you; namely, to ſet unto your worke and put plough in ground, when you ſee either the Lentiske tree to ſhew the hope of her firſt fruit, or the Peare tree to bloſſome and have a white head. There would bee alſo a third tilth or cruſhing of the ground, obſerved by the ſea-onyon Squilla, among thoſe hearbs which have bulbous roots: likewiſe among floures, by the Daffodill. For as theſe do bloume thrice, ſo they point unto three times of ploughing. For by their firſt bloſſome, they ſhew the firſt tilth or breaking up of the ground, by their middle flouring, the ſecond fallow or ſtirring: and by their third, the laſt cruſhing. Wherein a man may ſee the wonderfull chaine (as it were) that linketh this world together, whereby all creatures therein contained, give light ſome tokens and ſignes one to another. I
And this may bee obſerved alſo in the yvie (a thing verily not of the leaſt and laſt regard) which muſt not in any caſe be touched or meddled withall, ſo long as Beanes bee in their bloume; for that is the very time and meane to hurt it moſt and kill it for ever. Now, as ſome plants there bee that ſerve for ſignes unto others, ſo there be other that carie about them their owne marke, as for example, the Fig-trees: for looke when they put forth in the head a few leaves hollow, and with the edges turning upward in manner of a ſawcer or goblet, be ſure that is the right ſeaſon & beſt time to plant them.

Now is it time to returne from whence wee were digreſſed, namely, to the calculation of the principall times and quarters of the yeares, and namely, to the Spring Æquinox, which ſeemeth to be come and gone alwaies by the 8 day before the Calends of Aprill, to wit, the 25 of March. K
From which day forward, by *Cæſars* calculation, the Calends of Aprill, to wit, the firſt day of Aprill are ſignificant, as whereupon the ſtar Vergiliæ, *i.* the Brood-hen, beginneth to riſe or appeare in the morning; howſoever in Attica and the parts thereabout, the ſaid ſtar ſeemeth to ſet or be hidden in the evening upon the third day before the Nones of Aprill, *i.* the third of that month: and the morrow after, the ſame ſtarre doth the like in Bœotia. Howbeit, according to *Cæſars* Ephemerides for Italie, and the Chaldæans for Aſſyria and Babylon, the foreſaid ſtarre goeth downe or retireth out of ſight upon the Nones of Aprill, *i.* the fift of Aprill: at what time in Ægypt, as well *Orion* as his Sword [both ſtars in heaven ſo called] begin to be hidden. After *Cæſars* reckoning, the ſigne or ſtar Libra ſetteth in Italy the ſixt day before the Ides of Aprill, which is the eigth of the ſame moneth, and ſignifieth ſtore of raine. The fourteenth day before the Calends L
of May, which is the eighteenth of Aprill, the * Suculæ (a violent and troubleſome ſtar, cauſing ſtormes and tempeſts raging both on land and ſea) goe downe at evening in Ægypt; but in Attica two daies before, to wit, the ſixteenth of Aprill: and in Italy, by *Cæſars* booke, the day betweene both; that is to ſay, the ſeventeenth day of the ſaid moneth; the influence whereof is effectuall for three daies togither: but in Aſſyria it falleth out twelve daies before the Calends of May, *i.* the ninteenth of Aprill. This is the ſtar or ſigne in the heavens, commonly named Palilicium; becauſe the eleventh day before the Calends of May, *i.* the 20 of Aprill, the very birthday and memoriall feaſt of Rome cities foundation (on which day the weather commonly cleareth up and is faire againe) gave folke a notable occaſion of obſerving the ſaid ſtars retreat or occultation: howſoever the Greekes have tearmed them * Hyades, by reaſon of the rain and foule M
weather which ordinarily they bring. And whereas our countreymen have called them in Latine Suculæ, *i.* porkets or ſmall ſwine (according to the apparent Greeke denomination, which they thought to be derived of ὗς, ſounding in Latine *Sus*, *i.* a ſwine) their ſuppoſall was falſe, and bewrayed their great ignorance. Moreover, *Cæſar* noteth the eighth day before the Calends of May,

* or *Hyades*, which ſome ſay, are five in nũber, as *Heſiodus*: others ſeven, as *Proclus*.

* Ἀπὸ τῶ ὕειν ὑετῶ, *i.* of rain.

A May, which is the 24 of Aprill, for the time that the ſtar Hœdi, *i.* the Kids, doe riſe in Italy: but the next day after, they are obſerved to appeare in Ægypt: the morrow following, within Bœotia and Attica, the Dog-ſtar is marked to be hidden and gone in the evening, when as the Harpe-ſtar is ſeene in the morning. Now the day after that, which is the fifth day before the Calends of May, *i.* the 27 of Aprill, in Aſſyria Orion is quite hidden; and two daies after, the Dog-ſtar. Alſo the ſixth day before the Nones of May, which is the ſecond of that moneth, *Cæſar* obſerveth, That in Italy the foreſaid ſtarres Suculæ, riſe matutine and ſhew in the morning: like as alſo the rainie Goat-ſtar Capella, upon the eigth day before the Ides of May, which alſo is the eigth day of that moneth: and the very ſame day the Ægyptians doe obſerve in their countrey, that the great Dog-ſtar goeth downe in the evening, and is no more ſeene. Thus you ſee how theſe fixed
B ſtars and ſignes above rehearſed, doe ordinarily keepe their courſes, ruling and governing this time betweene, to wit, from the ſpring Æquinox in March, unto the ſixth day before the Ides of May, which is the ninth of the ſaid moneth. During the firſt fifteene daies of which halfe quarter, the husbandman muſt make haſt and take in hand that worke which he was not able to goe through with and diſpatch before the Æquinox; knowing full well, that upon neglect of this buſineſſe, aroſe firſt, the opprobrious reproches that vine-pruners and cutters doe heare on both ſides of their eares, from paſſengers and wayfaring men, by way of counterfeiting the ſong of that Summer-bird which they call the Cuckow: for it is counted ſo foule a ſhame, worthie a checke and rebuke, that the ſaid bird ſhould come and find a pruning hooke or bill in a vine at that time of the yeare; that folke therefore ſtick not to let flie at them bold taunts, and broad bi-
C ting ſcoffes, even in the firſt beginning of the Spring. And verily as theſe birds, ſo their ſong counterfeited in this ſort, ſeemeth to carrie an ominous and curſed preſage with them. See how the leaſt things belonging to Agriculture, are guided and caried by naturall reaſons! As for the later end of this foreſaid time, it muſt be employed in the ſowing of Panicke and Millet; for it is ordinarie and uſuall to ſow this kind of graine after that haſtie Barley is ripe, and alſo upon the very ſame lands where it grew. Now the ſigne common to them both, teſtifying as well the ripeneſſe of the one as the Seednes of the other, are the Glo-birds or Glo-wormes Cicindelæ, ſhining in the evening over the corne fields: for ſo the ruſticall paiſants and countrey clownes call certaine flies or wormes glowing and glittering ſtar-like; and the Greekes name them Lampyrides: wherin we may ſee the wonderfull bountie and incredible goodneſſe of Nature, in teaching
D us by that ſillie creature.

Chap. xxvii.

That Husbandmen ſhould not gaze at ſtarres ſo much, but rather goe by the ſeaſons of the yeare meet for ſowing. Alſo, that they ſhould marke the riſing, the ſetting, and the courſe of the Sun in ſome hearbes. And of the riſing and ſetting of other ſtars.

NAture contented not her ſelfe to aſſemble a troupe of ſtars together in a knot (I meane the Brood-hen Vergiliæ, whereby it is a ſigne in heaven above, conſpicuous ynough al-
E readie, and of great mark) but ſhe would needs give the Husbandman other ſtars beneath upon the earth, as ſignes to ſhew him the true ſeaſons and times when and how to goe to worke: as if ſhee cried out and ſpake unto him after this manner: Why ſhouldeſt thou looke up to the heavens, thou that art to till thy ground? Why keepeſt thou a ſeeking among the ſtars for thy countrey worke? Take thy reſt and repoſe thy wearied limbs good man, for the nights bee now ſhorter than they were: to bed therefore, for thou haſt but a while to ſleepe: Behold I ſcatter and ſpread here and there among thy very weeds and graſſe growing upon the ground, other eſpeciall ſhining ſtars, and thoſe I repreſent unto thine eies in the evening, & when thou doeſt unyoke and give over thy daies worke: and that thou ſhouldeſt not either plead ignorance, or neglect the ſame, I provoke thee to regard and looke thereat, as a ſtrange wonder. Seeſt thou not theſe
F flies or glo-birds aforeſaid cover their bright and glittering light, reſembling ſparckles of fire, when they keepe their wings cloſe together, and carie fire-light about them even in the night? More than ſo, I have given thee certaine hearbes to tell thee what is a clocke, and how the day goes: and to eaſe thee more, that thou needeſt not paine to avert thine eies away from the earth where thy worke lieth, and caſt them ſo much as up to the Sunne; loe the hearbe Heliotropium

and the Lupine, turne about with him. What ſtandeſt thou ſtaring ſtill into the skie, and holdeſt G
up thy noſe aloft into the aire? why art thou amuſed upon the courſe of the ſtars, and ſearcheſt
into heaven? Haſt thou not I pray thee another Brood hen ſtar, other Vergiliæ, I ſay, even be-
fore and under thy very feet, I meane theſe pretie glo-wormes? Surely theſe come duly at their
ſet daies: theſe keepe time juſt with thoſe of the heaven, and ſo long as they appeare and ſhine
above, theſe gloe and glitter beneath: as if they were linked to that ſtar by ſome neere alliance
and affinitie: in ſuch ſort, as a man may reſolve and hold for certaine that engendred they be no
otherwiſe but by the influence therof, and are the very chickens and brood of the foreſaid Hen.
And therefore conclude we may, that whoſoever ſoweth his ſummer corn, and looketh to reape
fruit accordingly before theſe are to bee ſeene, deceiveth himſelfe, and looſeth all his coſt and
paines. In this meane time and ſpace betweene, the pretie Bee commeth abroad, and telleth us H
that Beanes bloume, for it is the Beane bloſſome that calleth her forth of her hive.

Wouldſt thou know another ſigne yet, that winter is paſt and all the cold cleane gone? when
thou ſeeſt the Mulberrie tree to bud and put out young leaves, feare no more froſt nor hard wea-
ther to doe any harme for that yeare. Then (hardly) go to thy worke appropriate for this ſeaſon:
now is it good to plant young ſions and quick-ſets of Olives; now is the time to ſcrape & cleanſe
here and there where need is, the old Olive trees; and now would meddows be watered, even pre-
ſently after the Æquinox. What is elſe to be done in the field this Spring time? Mary, ſo ſoone
as the graſſe in the meddow is growne to a ſtem and begins once to ſpindle, then let foorth the
water, and draine your meddowes. Then doe the Vines looke for to be disburgened and rid from
their ſuperfluous leaves and needleſſe branches: And herein there is a certain gage ſet, and a rule I
to goe by, namely, when as the ſaid burgeons are ſhot out foure fingers in length. Where, note
by the way, that the disbraunching of an acre in Vineyard, is one mans work a day and no more.
This is the ſeaſon to give corne lands their ſtirring, that is to ſay, the ſecond tilth or fallow. As
for the ſarceling or weeding of [Winter] corne, it would bee done within twentie daies. For let
this Æquinoctiall ſeaſon paſſe, it is thought that ſarceling and weeding will hurt not only corne,
but vines alſo. To conclude, this is the very time alſo to waſh ſheepe.

And now to come againe unto our ſtars where we left. The morrow after the riſing or appari-
tion of the ſtar Vergiliæ beforeſaid, *Cæſar* reckoneth, that the ſigne Arcturus looſeth his light
and is hidden in the morning. Alſo, that the third day before the Ides of May, to wit, the thir-
teenth of that moneth, the Harpe ſtar ariſeth and begins to ſhine. Moreover, twelve daies before K
the Calends of Iune, which is the one and twentieth day thereof, the Kid-ſtar goeth down in the
evening: at what time as in the region of Attica the Dog-ſtar alſo ſetteth after the ſame manner.
The next day after (by *Cæſars* account for the Meridian of Italy) Orions Sword beginneth by little
and little to retire and goe out of our ſight. The third day before the Nones of Iune, *i.* the third
day of that moneth (after *Cæſars* Ephimerides for our climate of Italie, as alſo according to the
Chaldæans calculation for the Meridian of Aſſyria) the Eagle-ſtar beginneth to riſe and appear
in the evening. In which region, Arcturus goeth downe, and wee looſe the ſight thereof in the
morning, eight daies before the Ides of Iune, which is the ſixt of the month: howſoever with us
here in Italie, he ſetteth two daies later. As alſo two daies after that, *i.* the tenth of Iune, the Dol-
phin ſtar appeareth and giveth light in the evening. But ſeventeene daies before the Calends of L
Iulie, which is the fifteenth of Iune, we in Italie ſee the riſing of Orions Sword, which they in Æ-
gypt do obſerve foure daies after. And eleven daies before the ſaid Calends, to wit, the one and
twentieth day of Iune, the ſame ſtar (I meane the Sword of Orion) beginneth to go down and be
obſcured in Italie, if *Cæſars* Almanacke bee true. Now are wee come to the eight day before the
Calends of Iulie, namely, that foure and twentieth day of Iune, the very longeſt day and ſhorteſt
night of the whole yeare, and the Summer Sunneſtead. In this ſeaſon alſo be vines disburgeoned
and cleanſed from their unprofitable leaves and branches: then required it is, and care would be
had, that an old Vineyard ſhould have once digging, and the new, twice. This is the time of
ſheepe-ſhearing. Now, would Lupines bee turned in with the plough, for to enrich and manure
the ground. Now are the lands to be cruſhed and ſet up againſt the ſeed time. Now Vetches would M
ſtand no longer, but bee cut for to make forrage. Beanes alſo would bee now mowed downe, and
thraſhed out of the way ſoone after.

CHAP.

A

Chap. xxviii.

Of meddowes and lay grounds for hay and paſture. The manner how to refreſh and repaire a meddow. Of ſith-ſtones and whet-ſtones: of Siths and Sickles. Alſo, the time for ſowing corne, and the deſcription of thoſe fixed ſtars that governe this ſeaſon.

THe ordinarie ſeaſon to mow meddowes, is about the Calends or beginning of Iune. And verely, albeit theſe kind of grounds aske leaſt care and toile about them for to bee maintained, and ſtand the Husbandman in as little charges, yet ſomething would bee ſaid thereof,
B and theſe few rules following obſerved. Firſt therefore, a ground would be hained in, left lay, and kept for graſſe and hey, which is for ſoile good and fat, for ſituation lying either low and moiſt, or elſe having water at commaund from a brook or river neare at-hand: but above all, if it be poſſible, it muſt lie ſo, that it may have the benefite of the raine by letting in land-flouds into it (running along the lanes and high waies) for to refreſh and water the ſame. Alſo it is paſſing good otherwhiles to plough up a meddow ground [for the graſſe will come and grow afterwards the better] ſo it be well harrowed or raked thereupon, and laid even and levell. Provided alwaies, that hey-ſeeds, flowers & all, be ſowed upon it (ſuch as be found in hey-lofts and ricks, or els that ſhed out from the racke into the crib or maunger) which would bee done before the ſame ground bee harrowed as is aboveſaid. Howbeit, neither ought a meddow that is laid for hey and paſture, bee
C watered the firſt yeare, ne yet graſed with cattell, before the ſecond math; for feare leaſt the beaſts pluck up the graſſe quite ere it be well rooted, or kill the heart thereof by ſteining and trampling it under their feet. Moreover, it is to bee noted, that ſuch meddow grounds in time will age (as it were) and decay: in which regard, they ought to be helped and reſtored to their heart againe, by ſowing therein either Beanes, Rapes, Navews, or Millet: and when you have taken a crop of one of theſe from thence, the yeare following they would bee ſowne with ſome Frument or bread-corne: and ſo the third yeare left lay for meddow againe. Over and beſides, this would not be forgotten, that at every math, ſo often as the graſſe is mowed for hey with the ſyth, there come one after with an hooke, to cut downe thoſe tufts and manes which the mowiers paſſed over and left ſtanding behind them: for there is nothing worſe for a meddow, than to ſuffer graſſe grow to
D ſeed. The beſt hearbe in a meddow is the Claver graſſe or Trefoile: next to it is the common graſſe called Gramen, *i.* Coich or Dogs-tooth: the worſt is *Mimmulus. Alſo the Camocke or Whin, called Reſt-harrow, and ſuch like codded graſſe, is not for mowiers, for they crie out upon ſuch and curſe it. Moreover, they cannot away with the hearbe Equiſetis, *i.* Horſe-taile, ſo called for the reſemblance it hath to an horſe-taile or mane.

* Some read *Nummulus*, *i. Nummularia*, Peny-graſſe.

The fit time to mow downe graſſe, is when the ſpike or head thereof beginneth once to ſhed flowers, and to waxe ſtiffe: for in no caſe muſt it ſtand untill it be drie and withered. Bee not too late (quoth *Cato*) in your hey harveſt, but downe with your meddowes, before the ſeed of your graſſe bee ripe. Some, the day before that they ſet ſyth into their meddowes, water them, if there be a brooke at hand to be let in. And indeed the beſt cutting downe of graſſe is preſently upon
E ſome good dewes that have fallen overnight. * In ſome parts of Italie the manner is to cut their meddows after corne harveſt. Moreover, in old time it was more coſtly and painefull to mow (by far) than it is now adaies: for they uſed no other whetſtones, but ſuch as were knowne and ordinarie, as brought out of Candie and from beyond ſea; which would not give an edge to their ſythes and make them keene, without they were whetted with oile [as Barbers doe their raſours, and gravers their fine chezils and carving yrons:] and to that purpoſe the mowier went ever with a horn full of oile, tied faſt to his ſhanke. Since which time there have been found in Italie other maner of grindſtones, with water, which will bring any yron toole to an edge quickly, aswell as a file. But theſe water grindleſtones ſoone get a ſwarth and preſently become greene.

* Haply he meaneth a ſecond math.

As touching the very Sythes, there bee two ſorts of them. For thoſe of Italie be ſhorter than
F other, eaſie to handle and weld, and it were among buſhes, briers, and brambles. In France where their fields and meddowes be large, they goe a nearer and ſhorter way to worke, for they make no more adoe, but cut the graſſe down at the middle, and let that alone which is ſhort. Our mowiers here in Italie, take but one hand to it, and that is commonly their right, and ſo cut downe their graſſe: thus you ſhall have a man ordinarily in one day goe over an acre and cut it downe clean.

Alſo

Also it is one mans worke to bind the hey of one acre into bottels: and usually you shall have in G
Which is almost three of our sale lodes. so much ground 1200 pretie ones, of foure pound weight apeece. So soone as the grasse is cut downe and laid in swath, it must bee tedded, brought into windrowes, and turned eftsoones with the Sunne: neither ought it to be cocked up but drie: for otherwise, if this bee not carefully looked unto, you shall see it reeke and smoke again by the morning, for the heat that it hath caught within: but let the Sunne take it besides, you shall bee sure to see the cockes kindle and bee of a light fire.

So soone as this first grasse is downe and the hey made, the meddow must presently bee wa-
*Some call it woodcock hey. tered againe, to the end there may be a second math of rowen hey in * Autumne, which the Latines call Cordum. In the territorie of Interamna they use commonly to mow their meddowes foure times a yeare, yea, though they lie high and far from the benefit of water. And in most H
places of Italie, thrice is ordinarie: and the rowen grasse afterwards commeth up so thicke and high for pasture and forrage, that it yeeldeth as great a benefit as the crops of hey before: marie, to raise this commoditie and gaine, those know full well who are drovers of greater cattaile, breeders also of young colts, and principally, chariottiers that keepe coach-horses; for all these have the best meanes to employ this grasse for their most behoofe.

To proceed now to the consideration of the heavens. The Summer Sunnestead, falleth out alwaies [in Italie] to be just upon the foure and twentie day of Iune, at what time as the Sunne is entred eight degrees within Cancer, as hath been said before. This is that great point and Tropicke of the world: now is the heaven in most force, and the Sunne at the highest of his power and vertue. From the midwinter or shortest day of the yeare, unto this present, during the space I
of six moneths the daies lengthen: and now the Sunne being passed farre into the North, and having mounted and raught to the highest pitch of his intended laborious journey, beginneth to turne againe from this Tropicke of Cancer in the North, and bendeth his course toward the other Tropicke of Capricorne in the South; intending by this meanes for other six moneths to lengthen the nights and to shorten the daies, proportionably. Which the Husbandman no sooner seeth, but he taketh his opportunitie, and woteth well, that now is the time wherein hee must of necessitie make haste to gather and inn the fruits of the yeare, each one respectively in their severall seasons: now or never ought hee to lay in his provision against the Winter: now must hee arme and prepare himselfe (no remedie) to withstand the rigor of cold and frostie weather. And
therfore meet it was, that dame Nature (our kind nource and tender mother) should give us warK
ning hereof, and foreshew this alteration of the yeare, by most undoubted and infallible arguments. Hereupon she hath presented these markes and signes to the Husbandman, and brought them even to his hand: commaunding sundrie trees upon that very day of the Sunnestead to turne their leaves toward the Sunne, as it shee pointed unto them by the finger, and shewed how that Planet began to retire from whence hee came: so willing she is, not to conceale from him these secrets, that shee hath not set these markes upon wild and savage trees far remote out of the way, (because she would not have him take so much paines as to go into desert forrests, unpassable wields and mountaines, to seeke for the signes and tokens aforesaid) ne yet upon such as grow within good townes and cities, much lesse then those that serve and are in request for arbors and
vinets onely in hortyards and gardens of pleasure, that he should be faine to leave his ferme in L
the countrey and goe thither (and yet these trees also testifie of the Sunnestead and his returne:) what hath she done then? Marie she hath caused the Olive tree, which he seeth every hour planted at his very foot, to turne about her leafe: she hath willed the Linden, a tree that hee hath recourse unto every foot for a thousand uses, to doe the like: she hath enjoined the white Poplar or Aspe also the semblable, wedded as it is so commonly to Vines. Hast not thou ynough yet (quoth she) and will not all this make thee perfect? Look then to the Elme, at the foot wherof thou plantest thy Vine, and which thou seest continually endowed and enriched therewith, I will make it also to turne the leafe when the Sunne returnes. Thou strippest her of her leaves and braunches for thy cattell to eat and brouse; thou gettest up into it for to prune the Vine; How canst thou chuse but see the leaves turned? How canst thou be ignorant, but take knowledge of the Solstice M
and Sunnes returne? Surely that side of the leafe which was from the Sunne but yesterday, is now cleane contrarie, and lookes toward him; and in one word, all are turned upside downe. Thou occupiest the oisier and willow twigs ever and anone, to bind and tie one thing or other; lowest they grow of all the rest, and higher thou art than they by the head: never look up nor cast thine

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A eie aloft for the matter: thou ſhalt ſee how I will have them alſo, growing even under thy noſe, to turne their leaves about and follow the Sunne. Why complaineſt thou and whineſt, ſaying, I am a ſimple countreyman, I am not booke learned, I never went to Grammer ſchoole, and I wot not what? Certes, I cannot doe withall if thou be ignorant of the heavens, and canſt not skill of the cœleſtiall ſigns and courſe of the ſtars: it ſhall not be long of me, but thou maiſt be an Aſtronomer and Clearke ſufficient. For if all this teaching will not ſerve, in caſe, I ſay, thine eies will not inſtruct thee ynough to learne theſe ſignes: one ſigne more will I preſent unto thine eare. Doe but liſten to the groning tune and pitifull mone that the Quoiſt and Stock-dove makes: and never thinke that the Sunneſtead is paſt, before ſhe have left ſinging, and that thou ſeeſt her coave and ſitting upon her egs.

B But now to goe on ſtill with our Aſtrologie and Speculation of Heaven as wee have begun: among thoſe ſtars that rule this ſeaſon from the Sunneſtead beforeſaid, unto the ſetting or occultation of the *Harpe-ſtar; *Cæſar* ſaith, that ſix daies before the Calends of Iulie, to wit, the ſix and twentieth of Iune, Orion riſeth to the inhabitants of Italie: howſoever the ſtar called Orions *girdle, appeareth not to the Aſſyrians before the fourth day of Iulie, upon which day, in Ægypt the ſtar Procyon, *i.* the fore-runner of the Dogſtar Syrius ſheweth in the morning, and commeth in very hote and fierie: and ſurely what Latine name this ſtar ſhould have among the Romanes, I wote not, unleſſe we would have it to bee Canicula, that is to ſay, the Leſſe Dog ſtar, according to the pourtrait that it ſeemeth to reſemble among thoſe fixed ſtars in the firmament: and yet is this a ſigne in the heaven of great marke and conſequence, as anone we will declare more plainely. *Fidicula. *Zona.

C The third day before the Nones of Iulie, *i.* the fift of the ſaid moneth, after the Chaldæans account, in Aſſyria and Babylon, the ſtar named Corona, *i.* the Crowne, goeth downe in the morning: but on the very ſame day to the people of Attica, Orion is ſeene to riſe all whole as hee is. The even of the Ides of Iulie, which is the foureteenth of that moneth, the ſame Orion ceaſeth to be ſeene of them that dwell in Ægypt: and ſixteene daies before the Calends of Auguſt, to wit, the ſeventéenth of Iulie, the foreſaid ſtar Procyon riſeth to them in Aſſyria. The morrow after, which is the eighteenth day, all writers in manner doe agree upon the riſing of that ſignificant and notorious ſigne, which commonly we call the Dog-ſtar, to wit, when as the Sunne is entered the firſt degree of Leo, which falleth out to be the three & twentieth day after the Summer Sunſtead. And in truth both ſea and land doe find and feele the arrivall or comming of this ſtar, yea,

D and many a wild beaſt beſides, according as we have ſhewed already in place convenient. Neither is this ſtar leſſe worſhipped and adored than thoſe renowmed Planets which carie the names of gods and goddeſſes, and have divine honours done unto them. He it is that enflameth and ſetteth the Sunne on fire: to him is imputed the greateſt cauſe of that extreame hot weather, during the canicular daies. Two daies before, which is the fifteenth of Iulie, in Ægypt, the Æagle ſtar goeth downe in the morning, and then the Eteſian winds (called the Avant-curriers) begin, which *Cæſar* thought were not felt nor knowne in Italie untill eight daies after, namely, the three and twentith of Iulie: on which day the Ægle ſtar is knowne to ſet and goe out of ſight in the region of Attica and that tract, in the morning. As for the Roiall ſtar ſeated in the breaſt of Leo, *Cæſar* affirmeth, That it goeth downe and is all hidden betimes in the morning, the thirtieth day of Iulie, which

E is three daies before the Kalends of Auguſt. Now the eight day before the Ides of Auguſt, which is the ſixt day of the month, the one moietie or halfe of Arcturus goeth down: but the third day before the ſame Ides, which is the eleventh of that moneth, the Harpe ſtar by his occultation or going downe, beginneth Autumne, according as the ſame *Cæſar* noteth: but indeed and verely, as it hath been found by true demonſtration, it is the ſixt day before the Ides, to wit, the eight of Auguſt. This halfe quarter or ſix weekes ſpace, is that which determineth of vines and vintage, by the meanes of that ſtar which we called Canicula, the very ruler indeed over Vineyards, and whereupon dependeth the good or bad ſeaſon for all our grapes and wine the next yeare. From hence it is, and not otherwiſe, that the Vines are ſaid to be blaſted, & the grapes burnt (as it were) to a coale. No haile ſtormes, no tempeſt of wind or raine is comparable hereunto, nor doth the

F like harme to corne and grapes: this cauſeth many a time ſcarcitie, and bringeth extreame dearth and famine, which neither haile nor tempeſt doth. As for theſe tempeſts, they endomage haply and hurt ſome fields here and there: but the blaſt beforeſaid plagueth whole countries, farre and neare. Howbeit, it were no hard matter to deviſe how to withſtand and remedie this miſcheefe, but that men take more pleaſure to take occaſion for to blame Nature and her workes, under pre-

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tence and colour of ſuch untoward blaſts, than to ſeeke and find meanes to do themſelves good. G
It is reported of *Democritus*, the firſt Philoſopher who underſtood himſelfe, and afterwards ſhewed unto the world, the great affinitie and agreement that was between heaven and earth (which ſundry of his the richeſt and wealthieſt citizens where he lived, ſeemed to ſcorne and deſpiſe) foreſeeing by the courſe of the ſtars, & namely, by the riſing that would be of the Vergiliæ or Brood-hen (according as I have ſhewed alreadie, and will anon declare more at large) that Olives would faile that year, and conſequently a dearth enſue of oile; bought up all the oile in that tract & countrie, which as then for the hope of great plentie of Olives, bare no price: whereat the great merchants of the citie (who dreamed of nothing leſſe than of a ſcarſitie of oile, conſidering the Olives made ſo fair a ſhew upon the trees) were aſtonied & marvelled much, that *Democritus* ſo learned a Philoſopher, & a man who they knew, was wont by his profeſſion to content himſelfe with pover- H
tie, to ſet his mind upon nothing ſo much as a quiet life, & wholly to buſie his braine in attaining of knowledge and learning, was now on a ſuddain become a merchant. In the end, they perceived what the cauſe was, & acknowledged his divine skill in foreſeeing & preventing a dearth: and he for his part ſhewed plainly, That it was not avarice and deſire of lucre that moved him to take this courſe, but to let the world know, that if he were ſo diſpoſed, he could by the means of his learning only, be ſoon a rich man (as indeed he grew hereby to exceeding wealth;) for preſently of his own accord he reſtored again unto the former owners, who God wot were diſpleaſed with themſelves for that they had done, & wiſhed withall their harts, that they had met with the like bargaine; he remitted (I ſay) all this commoditie which he had gotten into his own hands, at their owne price: reſting herein, that he had made good proofe, how ſoon & eaſily he could be rich whenſoever he I
would. Long time after him, *Sextius* one of our Roman Philoſophers, did the like at Athens, and after the ſame manner: whereby we may ſee, in what ſtead learning and literature ſerveth, if a man will employ the ſame to his own benefit. And I care not much verily to give the countriman a taſt thereof, as much as may concern the cauſe of the Blaſting aforeſaid, and to intermeddle the ſame with his ruſtick affairs, but as plainly and with as great facilitie & lightſomeneſſe as poſſibly I can. Moſt are of this opinion & have delivered in writing, That as well the blaſting in corn called Ruligo, as the ſindging & burning of vines named Carbunculus, proceed from certain dews ſetling upon them, which caught a cauſticke qualitie from the acrimonie and extraordinarie heat of the Sun. This conjecture and reaſon of theirs, I hold in ſome part to be falſe, for the Sun never doth harme either to the one or the other in this reſpect; but looke what blaſt ſoever it be that ſind- K
geth or burneth corne and vines, it is occaſioned by cold onely: and if you take good heed and marke how this commeth about, you will ſay it is cleare and paſt all peradventure: for firſt and foremoſt this is well knowne, That it never hapneth but in the night, or at leaſtwiſe before the Sunne is riſen: ſo as we may conclude well and truly, that all this dependeth upon the influence of the moone. For never ſhall a man ſee any of theſe hurtfull blaſts, but either about the change or full of the moone, that is to ſay, when ſhee is in her greateſt force: for at both theſe times, as well in the conjunction with the Sunne, as in oppoſition, powerfull ſhee is, and in ſome ſort may be tearmed Full, as I have many a time alreadie ſaid. But at the chaunge, looke what light ſhee received from the Sunne, the ſame ſhee ſendeth all up againe to heaven. Great difference therfore there is in the effects of the moon in both theſe habits, and the ſame very evident and appa- L
rant: for be it in ſummer, hoteſt ſhe is in the change; but in winter, cold: contrariwiſe, the moon in ſummer being at the full, maketh cold nights, and in winter is warme: the cauſe whereof is plaine and manifeſt. Howbeit, *Fabianus* and the Greeke writers, render another reaſon: for in ſummer time, the moone being in coniunction with the ſunne, and meeting with him when he is in a circle neareſt unto us, muſt of neceſſitie be enflamed with the fire that it receiveth from the ſunne, ſo neare unto her and us both: whereas contrariwiſe, during winter, in the time of the chaunge or conjunction, ſhe cannot chuſe but be cold, as being remote far from us; like as the ſunne alſo, who is retired far South toward the Tropicke of Capricorne. Semblably, at the full in Summer, ſhe is far off from us, as being oppoſite unto the ſunne ſo neare unto us: no marveile therefore if ſhee be cold in regard of our climat: but in winter, at the ſame time of her oppoſi- M
tion as ſhe is nearer unto us, taking her courſe through the ſummer circle of the ſunne; ſo we may conclude, ſhe doth moderate the rigour of winter cold, and conſequently that then, ordinarily ſhe is warme. Conſidering then that the moone being (at the full in ſummer) ſo cold, and charged ordinarily as ſhee is of her owne nature with much dew, what wonder is it if at ſuch a time

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A the froſts and dewes that fall bee exceeding cold and congealed againe, which are the cauſe of all the ſaid blaſtings? But above all we muſt remember, that there be two ſorts of accidents comming from above, that mightily doe wrong and annoy the fruits of the earth. The one wee call Tempeſts, which comprehend hailes, ſtormes of wind and raine, and ſuch like impreſſions of the aire, which whenſoever they doe light, are tearmed by the Lawyers, *Vis major*, *i.* the greater violence: and theſe for the moſt part proceed from ſome of the horrible and dreadfull Stars, as we have many times noted, to wit, Arcturus, Orion, and the Kids. Of the ſecond ſort of theſe calamities, be they which happen when the weather is ſtill and quiet without any trouble of winds, in the faireſt and cleareſt nights, and no man ever perceiveth them untill the harme be done: theſe be more publicke and univerſall, theſe differ much from the former; ſome call them Mieldewes, B others Hot-planets; ſome againe tearme them Blaſts and ſindging Carbuncles: but it skills not much what names they have, for all men confeſſe that ſcarſitie and dearth is their effect. And for as much as no man hitherto hath written of theſe Blaſts, &c. I meane to deliver mine opinion of them, and firſt to ſet downe the cauſe and reaſon thereof.

or, the hand of God.

Chap. xxix.

Of the tempeſts and calamities incident to the fruits of the earth, as well in Winter as Summer: the meanes alſo to remedie ſuch accidents cauſing ſterilitie and ſcarſitie.

C THeſe Blaſts, theſe wicked Planets, that ſindge and burne the fruits of the earth, beſides the influence and power of the moone, proceed from other cauſes, and twaine eſpecially, and thoſe are not to bee found in many coaſts and quarters of the heaven: for the ſtarre Vergiliæ, regardeth principally the fruits of the earth, and over them is very predominant; as beeing the only ſtar, which in her riſing and apparition begins ſummer; in her fall and occultation, ſheweth the entrance of winter; by which meanes for ſix moneths ſpace, whiles ſhee is in ſight, ſhee compriſeth harveſt and vintage, and generally cauſeth all fruits to ripen kindly or unkindly.

There is beſides in the heaven, a certain white circle called the Milkeway [or Watling-ſtreet] which is not imaginarie as others, but very conſpicuous and eaſie to be ſeene. By the influence of this circle, as it were out of ſome udder, all plants receive their milke, their humiditie, and nu- D triment, and namely, by the meanes of two notable ſtars obſerved therein; to wit, the Ægle in the North ſide thereof, and the Dog Canicula (whereof we made mention in place convenient) ſituate toward the South. This circle then paſſing through the ſignes of the Zodiacke, Sagittarius and Gemini, and ſtretching by the centre of the Sunne, cutteth the Æquinoctiall line twice in two ſeverall places: the commiſſures or joynts of which two ſignes, are poſſeſſed of the one ſide with the Ægle ſtar, and on the other ſide with the Dog Canicula beforeſaid. No marveile therefore if all countries habitable and fruitfull, be ſubject to the influence of theſe two ſtars and feele their effects; becauſe in thoſe parts onely of the Zodiacke wherein they are placed, the centre and middle of the earth, togither with the centre alſo of the Sunne, agree and meet juſt in one and the ſame point of the Æquinoctiall. Hereupon it is, that if in the ſeverall ſeaſons of theſe E two ſtars aboveſaid, (to wit, when the Ægle and the Dog Canicula, do either riſe or fall, appeare or couch) the aire be pure, cleare, and mild, and thereby the humor genitall diſtilling from that Milkeway or circle aforeſaid downe to the earth, meet with that faire and calme aire, then all plants and fruits of the earth are the better for it, and proſper mightily. Now in caſe the moon either at chaunge or full, doe ſend downe and ſprinkle upon them a cold congealed dew (in maner aboveſaid) the humor and nouriture likewiſe deſcending from the Milke-circle, is infected therewith and becommeth bitter, killing all the fruit upon which it falleth: much like as if a yong babe or infant new borne, ſhould ſucke bitter and unholeſome milke, and thereupon ſoone after die. Thus you ſee, how in every climat whatſoever, the correſpondence of the moone and the ſtars aboveſaid more or leſſe, cauſeth thoſe untoward Blaſts, Mieldewes, and ſuch like; not in like F meaſure at one time and in every place. Which is the cauſe that this kind of injurie and calamitie is not felt at one inſtant throughout the world, no more than the day is one and the ſame in all parts of the earth: for the Ægle (as I have ſaid before) ariſeth to us in Italie thirteen daies before the Calends of Ianuarie, *i.* the 20 of December: now before that day be paſt (by the ordinarie courſe of Nature) there can be no aſſured hope of the fruits of the earth, but that they

may

may miscarrie: but if it fall out besides, that the moone upon that day doe chaunge, all fruits as G
well winter fruits as those which be called Hastie, must of necessitie take harme and bee hurt thereby. Rude and simple, I confesse, were our aunce stors in old time, and altogither unlettered, howbeit as wittie (as shall appeare) in their observations and ceremonies, as our Moderns in these daies be resolute, with all their skill they have, grounded upon reason and consequence: for according as they feared three seasons above the rest, least they should doe harme unto the fruits of the earth; so they instituted as many Holydaies and set feasts, to wit, Rubigalia, Floralia, and Vinalia. As touching Rubigalia, they were ordained first by King *Numa* in the eleventh
* S. Marks day with us. yeare of his reigne, which now we celebrate a * seven-night before May day, to wit, the 25 of Aprill: the reason is, for that about this time corne is subject to the blast. Howbeit, *Varro* following the order observed in his daies, setteth downe this daungerous time to be, when the Sun is H
in the tenth degree of Taurus, and occasioned thereby. But in deed, according to the calcul of others, the true reason and cause is this, That about nineteen daies after the Spring Æquinox, divers nations have observed foure malignant daies, which reach to the 28 of Aprill: in which time, the Dog-star Canis coucheth (a violent and daungerous star of himselfe by nature) and before which of necessitie the other little star Canicula must retire and goe downe. And therefore those aunce stors and forefathers of ours, instituted the feast of Floralia, as they were advised out of the bookes of *Sibylla*, in the 516 yeare after the foundation of Rome cittie: who ordained also, that the said feast should be held the fourth day before the Calends of May, to wit, the 28 day before-named of Aprill, for this intent, That all plants might blowme kindly, and shed their blossoms as well. *Varro* setteth downe this day to fall out, when as the Sunne is entred I
fourteene degrees into Taurus. Therefore in case it be full moone during these foure daies of the feast Floralia, not onely corne, but all other plants whatsoever that shall blossome, are sure to take grear harme thereby. As for the former feast called Vinalia, which is kept five daies before,
* S. George day with us. to wit, the * 23 of Aprill, it concerneth nothing at all the fruits of the earth, but was appointed only as a fit time for to tast wines. And yet for all these observations before-named, there is none of them pertinent either to Vines or Olive trees, for their time of conception beginneth at the rising of the star Vergiliæ, to wit, six daies before the Ides of May, which is the tenth of that moneth, as we have before declared. About which time, there be other foure daungerous daies, in which husbandmen in no wise would have any grosse and filthie stinking dewes to fall, for feare of their Vines and Olives, (for above all, they stand in dread of the star Arcturus, which goeth K
downe the morrow after the rising of Vergiliæ, and commonly brings with it raw and unkindly rimes) and much lesse that the moone should happen to be in the full at such a time. The fourth day before the Nones of Iune, which is the second of the same moneth, the Ægle starre appeareth the second time in the evening: a judiciall day is this day, and it will go hard with Olives and Vines now in their floure, especially if the full moone also light thereupon, and give evidence against them. For mine owne part, I would thinke verily, that the Summer Sunstead ordinarily upon the 25 of Iune is as dangerous; as also the rising of the great Dog-star which alwaies falleth out to be 23 daies after the said Sunstead, if so bee that the moone doe chaunge in any of those two daies; for then commeth the harme by extremitie of heat, which doth so bake & harden the young kernels of the grapes and Olives new knit, that they be tanned as it were into a L
tough callositie, that they can thrive and grow no more from that day forward. Againe, the full of the moone is as hurtfull as it, to vines and Olives, if it happen the fourth day before the Nones of Iuly, to wit, the fourth day of the said moneth, at what time the lesse Dog-star Canicula riseth to them in Ægypt; or at least wise the sixteenth day before the Calends of August, which is the seventeenth of Iuly, when we in Italy discover the rising of the said Canicula. Likewise if the moone chaunce to be in the full betweene the twentie and three and twentie daies of the said Iulie, what time the Ægle star goeth downe, the same daunger befalleth vines and Olives. As touching the second feast Vinalia, which is observed and kept thirteene daies before September, to wit, the 20 of August, it is not to be raunged among these, as being of another nature, and instituted at first for other causes. *Varro* would have this feast to begin at the departure of the M
Harpe-star Fidicula, which beginneth to retire in the morning, and which day he setteth downe for the first entrie of Autumne: saying moreover, that this feast was instituted for appeasing the stormes and tempests incident to that season. And now observed it is, that the said Harpe-starre Fidicula setteth six daies before the Ides of August, which is the eighth day of that month. Thus much

A much as touching the causes of sterilitie and dearth, occasioned by the constellations, according to sundrie seasons of the yeere, after that calculation which I goe by: But I will not bind every man thereto, for well I know and cannot denie, but the readers may chaunge and alter the same at their pleasures, according to the diversitie of the climats; in regard whereof, the observation also of those daungerous daies may vary from mine account. For this present, it sufficeth my turne that I have set downe the true cause in Nature, from whence proceed those calamities: all the rest besides, I refer to ech mans consideration, who for any thing that I have said, may take their libertie and observe what they think good. Certes this shall be found cleare and doubtlesse in the end, That these unkind dews and dangerous blasts are occasioned by one of these two causes, to wit, either the full or chaunge of the Moone. And herein verily, I cannot chuse but me-
B ditate upon and admire the wonderfull goodnesse and bountie of dame Nature; first in this, That she hath so limited and determined the set course of the stars, that these calamities cannot possibly happen every yeare; neither yet oftentimes in the same yeare, but onely some few nights, to wit, in the chaunge or full of the Moone: and when they will come, it is easie to foreknow and fore-tell. And to the end that we should not need to feare these daungers every moneth, shee hath so ordered the matter, and divided the influence of the Moone by night in such sort, that setting aside two daies in Summer, the chaunges of the Moon do no harme at all: no more than the full in Winter: neither are these two new Moones to bee feared, but in Summer nights, and those shortest of all other, wherby they have lesse time and leasure to offend the earth: for all the day long they have not the same force, nor work the like effects. Over and besides, so easie a mat-
C ter shee would have it for to know either the conjunction or opposition of the Moone, that the very Pismire (the silliest and least creature of all other) by instinct of Nature, is our guide to the one and the other: for in the chaunge she is seene commonly to rest and take her repose; whereas at the full Moone she workes and labours both night and day. And that we should not bee ignorant of the Dogge-star Sirius his rising, looke what day he sheweth first, the little Nonett or bird, called in Latine Parra, goeth aside, and appeareth not again before he be hidden and gone downe. Contrariwise, the Loriot, Greene-finch, or Canarie bird Vireo, commeth abroad the very day of the Summers Sunnestead, and not before, that we should not pretend ignorance of the longest day in the yeare, a time whereon dependeth so great a consequence. But be it change or be it full, neither the one nor the other habite of the Moone is daungerous, no not in the ve-
D ry night season, unlesse it be cleare and calme, that is to say, faire starlight, and all winds laid: for neither in cloudie and close weather, ne yet when the winds are aloft, doe any dewes fall. And at such times also as they use to come, there is a remedie provided against them: for when thou fearest a blast or Mieldeaw, lay me altogether all over the fields and Vineyards (by heaps) Vine-cuttings and such drie stickes, chaffe, straw, and other like mullocke, drie weeds & shrubs which have been plucked out of the ground, and set them all on fire; the very smoke will helpe this matter, and avert the daunger from corne and grapes. And as for the fume of chaffe and straw, it is good against stinking fogs and mists, when they are thought to doe harme. Some there bee that prescribe to take three Crab-fishes alive, and to burne them in Hortyards among the trees, to preserve and defend them against the sendging blast called the Carbuncle. Others take the flesh of
E the fish Silurus, & rost or broile it softly upon the fire, on the wind side, to the end, that the fume and smoke thereof might be caried and dispersed all over the Vineyard, to chase away the scorching blast aforesaid. *Varro* affirmeth, That if about the retrait of the Harpe-star Fidicula, which is the beginning of Autumne, a man paint a cluster of grapes, and consecrate it to the gods among the Vines, the stormes and tempests of wind and raine will do lesse harme to the fruit hanging thereupon. *Archibius* in a booke that hee wrote to king *Antiochus*, saith, That if a land-toad be put into a new earthen pot that never was occupied before, & the same enterred and covered within the ground in the middest of a corne field, the corne shall take no harme that yeare by any tempests whatsoever.

As touching the rusticall worke which should be done in these six weekes space, the Husband-
F man ought to give his lands a second fallow, to dig about the roots of trees, and (where the heat of the countrey doth so require) to mould and banke them againe: howbeit, such as be budding and putting forth new shoots, would not be digged, unlesse the soile be very good and ranke. Seminaries or nource-gardens would now be sarcled and cleansed. Addresse himselfe he must, and make all readie against Barley harvest. Now is he to prepare his barne plot and thrashing floore,

and to pave it with a coat of chalke, tempered well and wrought with oile dregs, by *Catoes* advise; G
howsoever *Virgil* is more curious in this behalfe. For the most part of Husbandmen, after they have laid it even and levell, they goe over it againe with Oxe dung, tempered to a thin consistence with water, for to bind the said floore: and this is thought to bee a sufficient remedie, that the dust shall not rise.

Chap. xxx.

Of Corne-harvest: of common Wheat: of Chaffe: and the order how to keepe corne.

As touching the manner of cutting downe or reaping corne, there be diverse and sundry de- H
vises. In Fraunce where the fields be large, they use to set a jade or an asse unto the taile of a mightie great wheelebarrow or cart made in manner of a Van, and the same set with keene and trenchant teeth sticking out on both sides: now is this carre driven forward before the said beast upon two wheeles, into the standing ripe corne (contrarie to the manner of other carts that are drawne after) the said teeth or sharpe tines fastened to the sides of the wheelebarrow or car aforesaid, catch hold of the corne eares, and cut them off: yet so, as they fall presently into the bodie of the wheelebarrow. In some places the fashion is to cut with a hooke or syccle the straw in the middest: and betweene every two sheaves they sit downe, and then crop off the eares just at the straw. In other countries they use to plucke up the standing corne by the root: and in so doing, perswaded they are that this is a very neare and readie way to save charges, & may serve for one tilth well ynough: but by their leave, they rob the ground by the meanes of her kind and I
naturall moisture. The reason of this diversitie and difference is this: in such countries where they use to thatch their houses with straw, they save it to the full length, and goe as neare as possibly they can: againe, where there is but small store of hay, they make account of their short chaffe for to litter, yea, and fodder their beasts. As for Panicke haulme, it never serveth the turne in any place for thatch. And for Millet straw, they burne it ordinarily. Barley straw is kept and saved very carefully for an excellent fodder, that kine and oxen love very well. To conclude, in France they have another way to gather their Panicke and Millet especially, to wit, cutting the same eare by eare upon a combe with a handle to it [as Barbers use to clip or poll mens heads.]

Concerning the devise of thrashing, it is practised sundrie waies. In some places they use to K
crush the corne out of the eares with heavie and rugged dreies drawne over it, as it lieth upon the barne floore. In others, they set Mares to stampe and trample it under their feet, and so drive it out: and there be againe who beat and flap it forth with flailes or cudgels.

Common wheat, the later that it is reaped, the better it is found of cast: but the sooner that it goeth downe, the fairer is the graine, and more full and weightie. The best rule for the one and the other, is this, to goe downe with it, and lay it along, before the corne bee verie hard, and when it begins once to looke russet, and to have a browne or reddish blee. And here, remember the old said Saw that may goe well for an Oracle, Better two daies too soone, than as many too late.

For the inning of the fine wheat Siligo, and the common Triticum, it is much after one sort, L
and they would be ordered alike, both in barne, rike, and thrashing floore. The good red bearded wheat Far, because it commeth hardly out of the huske, and asketh some painefull thrashing, ought to bee laid up in the garner, huske and all together, even in the chaffe; onely it would be rid from the maine straw, and despoiled of the eiles or beard growing to the eare. Chaffe is good chaffre in many countries, and serves in stead of hay. Where note, that the finer and smaller that the chaffe is, and enclining nearer to pouder, the better it is thought to be. And therefore the best simply is that which commeth of Millet: the next in goodnesse, Barley maketh: but the common wheat Triticum yeeldeth the worst, unlesse it bee for poore hungrie jades and such labouring garrons.

The straw or haulme that remaineth standing as boltings when corne is reaped by the eare or M
after it be well dried, the manner is to lay upon some hard, craggie, and stonie ground, then all to beat and belabour it with cudgels, that it may bee soft and serve in stead of litter to lie under cattell. If chaffe faile for fodder, the very haulme or straw left in the field, ought to bee braied and beaten short, to supplie forrage in manner following. Cut it downe so much the sooner, let it bee

well

A well ſprinckled and drenched a long time in brine: and when it is dried againe, make it up round into certaine bottles or bals, and ſo give it to kine and oxen for their fodder. There bee that ſet fire on it, and ſtraw both, in the field whereas it grew. And ſurely, *Virgil* highly commendeth this for a great point of Husbandrie: the cheefe reaſon hereof was, to burne the ſeed that the weeds ſhed, and to kill their roots that remaine upon arable ground. In ſumme, the diverſe faſhions and manners of reaping, proceed from this, That in ſome countries the harveſts bee greater than in others: and beſides, Reapers and mowiers are not to bee had in all places alike, nor ſo eaſily hired.

It followeth now by good order, as a matter hereunto annexed, to write of the manner how to lay up and keepe corne for ſtore. Some are very curious and indeed over preciſe in this point,
B and namely in building of barnes and garners. For they give order, that in any wiſe their walls be raiſed of bricke, and thoſe three foot in thickneſſe. Alſo, that they be filled top full and cloſed up aloft, that they have no windows at all, nor any place open to let in or admit wind. Others would have windowes, but thoſe onely toward the Northeaſt wind, where the Sunne riſeth in Summer, or elſe into the North: and in any hand the bricke muſt not bee laid with lime, for that it is moſt hurtfull to corne. For as touching oile dregs or lees, how they would have it to bee uſed, I have declared alreadie. Contrariwiſe, in ſome countries they build their garners of timber, and ſet them aloft in the aire hollow from the ground, bearing upon piles and poſts of wood: and ſuch are deviſed of purpoſe with many ouvertures on every ſide to receive wind, inſomuch, as from beneath alſo the bourds and plankes bee open to take all aire. And yet others
C there bee who miſlike altogether theſe kind of frames, being of this opinion, That in ſuch ſolars and lofts reared ſo high into the aire, the corne will diminiſh and wither: yea, and if it lie neare to a roufe of tiles, it will bee in daunger to catch a fire and burne. There bee that would not have corne to bee turned in the garner, for to breath and take the wind: for that the mite or weevill that eateth graine, never commeth within foure fingers of the bottome of the heape, ſo that beneath that gage there is no danger, and therefore it needs no ſuch ſtirring at all. *Columella* ſaith, That it were good to have a garner open into the Weſt, for that the wind Favonius is kind for corne: whereat I marvaile very much, conſidering that otherwiſe he is carefull to ſeeke out the drieſt places. Laſt of all, there be ſome that would have a land-toad tied by one of her hinder or longer leggés, and ſo to hang at the dore and entrie of the garner or barne where
D corne lieth. For mine owne part, if I ſhould ſpeake what I thinke, I hold, that the cheefe and principall thing for the keeping of corne well, is to know and uſe the verie fit time and ſeaſon of laying it up. For if it bee gathered when it is not fully ripe, and before it have the due parching from the Sunne, and the firme ſubſtance hardened as it ought, likewiſe if it bee brought unto the barne or garner hote, it cannot bee avoided, but vermine will breed therein to doe it much hurt.

That ſome kind of graine will continue good and ſound, yea, and laſt longer than other, there bee many cauſes. For either it proceedeth from the skin or huske, when it is manifold, as in Millet; or the fatneſſe of the marrow and floure within, which maintaineth and feedeth the graine as the radicall and nutritive humour, as in Seſama; or laſtly, of bitterneſſe, as in Lupines
E and the ſmall bitter Cichots. As for the Frument or wheat Triticum, apt it is moſt of all other to engender and breed weevils and ſuch like wormes, becauſe it ſoone catcheth a heate, and is quickly enchaufed, by reaſon of the thicke and faſt ſubſtance of the owne, and beſides encloſed and clad it is within a thicke and groſſe skin, which is the bran. Barley hath a finer and ſlenderer huske: and ſome Pulſe a thinner than it: ſuch therfore are not ſubject to the ſaid vermine. Howbeit, Beanes bee covered with thicke pillings or tunicles, and therefore eaſie to take an unnaturall heat and putrifie. Some uſe a deviſe to keepe Frument corne a long time, with oile lees, beſtowing onely the ſprinckle of one Quadrantall, to a thouſand Modij thereof. Others beſtrew among it the pouder of Chalke brought either from Chalcis or Caria; or elſe lay ſome Wormewood among it. There is a kind of earth in Olynthus and Cerynthus within Eubœa,
F which is highly commended in this caſe, for it will not ſuffer corne to corrupt. And lightly, what corne ſoever it be that is laid up in the eare, never taketh any harme, keepe it as long as you will. Howbeit, the beſt and moſt aſſured way to preſerve corne, is in caves or vaults under the ground, which in Latine be called Siri, as the practiſe is in Cappadocia and Thracia. In Ægypt and Barbarie, above all things they looke to this, That their garners ſtand upon a drie ground:

and how drie soever the floore be, yet they lay a course of chaffe vnderneath betweene it and the corne. Moreover, they put up their corne in garners and bins, togither with their spike or eare: by which deuise they are sure (if no aire come in) that no hurtfull worme or vermine will breed among it. And verely *Varro* saith for certein, That wheat in that manner laid up, will last fiftie yeeres, and Millet an hundred. Hee affirmeth moreover, that beans and other pulse will keepe good a long time in oile barrels, if they bee calked with ashes. Hee avoucheth moreover, that beans were knowne to have continued from the time wherein king *Pyrrhus* lived, unto the Pyrats warre, which under the conduct of *Pompey* the Great was dispatched and brought to an end; which provision of beans had been laid up 120 yeares before, and kept close in a certaine cave under the ground, within the cittie of Ambracia. The Cich pease is the only graine that is subject to no vermin breeding in it while it lyeth in garner or barne. Some there are who take certeine pitchers of earth having vinegre in them, upon which beeing well bedded in ashes and done over with pitch, they make their heaps of pulse; and by this meanes they are verily persuaded, that no weevils, mites, or other wormes will breed therein to doe harme. Others, for to preserve their pulse, put them into salt-fish barrels, but they dawbe the same first with a certain kind of mortar made of plastre. Last of all, for to keepe Lentils, there be that drench them with the vinegre confected with Laserpitium, and when they bee dried againe besmeare them over with oile. But will you have indeed one short rule for all? To be sure that no worme or vermin shall breed in your corne, cut it downe and gather it about the chaunge of the moone. Therefore it skilleth very much to know a mans intention, whether hee meane to keepe or to sell his corne: for certein it is, that as the moone groweth, so doth corne wax full and great, and therefore filleth the strike a great deale better.

C H A P. XXXI.

Of Vintage: and the particular seasons in Autumne.

ACcording to our partition of the yeare into four-quarters, it followeth now by course and order, to treat of the Autumne, which beginneth at the retreat or occultation of the Harp-star Fidicula; and so forward to the Æquinox in September: from whence I will proceed to the couching or going down of the Brood-hen Vergiliæ, the very beginning & first entrance of the winter. In which meane spaces and equall distances, both before & after the said Æquinox, these stars following are significant, and set out the particular seasons: First, the day before the Ides of August, [*i.* the twelfth of the month] the star called the Horse, appeareth in the Hæmisphære to the people of Attica: but at eventide the same day, the Dolphin star setteth to them in Ægypt, and likewise to us here in Italy, according to *Cæsars* account. Also eleven daies before the Calends of September, which is the 22 day of August, (by the calculation of *Cæsar* and the Chaldæans) the star named in Latine * Vindemiator, *i.* the Vintager, beginneth to shew in the morning, both to the Assyrians and the Italians; a trustie vaunt-curriour, bringing certaine tidings with him, and promising assured hope of a vintage, and that the grapes will be ripe anon: and for a farther token and apparence thereof, marke the grapes then, for now begin they to chaunge colour. To the people of Assyria, the fifth day before the Calends of September, *id est*, the 28 of August, both the star Sagitta seemeth to goe downe, and withall the Etesian winds lie, and give over blowing. The Vintager himselfe, to wit, the star so called, to the inhabitants of Ægypt riseth upon the Nones of September, *i.* the fifth day of the month: upon which day to the people of Attica, the star Arcturus riseth in the morning; and the Sagitta, *i.* the Shaft, goeth downe in the evening. To come now to the Ides of September: five daies before them, that is to say, the ninth day of the moneth (after *Cæsars* card) the star called Capella, *i.* the Kid, sheweth it selfe here in Italy toward evening: but the day before the said Ides, *i.* the twelfth day of the moneth, the one halfe of Arcturus appeareth to rise: and then for five daies togither (his influence is such) he keepeth such foule worke both by sea and land, that both Sailer and Husbandman feele the violence of his arrivall: and this reason is given therof; For if (say they) at the fall or occultation of the Dolphin star, there be no showres of raine, none will Arcturus bring with him at his comming. An evident signe there is, that the star Arcturus will not be long before he arise, and that is this, The departure of the Swallowes: for this is certein, if hee chaunce to surprise any of them, and that they be not gone before out of the countrey, they are sure to pay for their

* rather, *Provindemiator*, i. the forerunner of the vintage, προτρυγητης: for *Vindemiator* followeth afterward in September.

A their long tarrying and to die for it. The sixteenth day before the Calends of October, which is the sixteenth day of September, the star called Spica, *i.* the Eare of corne, which the signe Virgo (*i.* the Virgin) holdeth in her hand, riseth in the morning to them in Ægypt; and then the Etesian winds also are quiet and laid in that countrey. Howbeit after *Cæsars* calculation, this falleth out upon the fourteenth day before the Calends of October, *i.* the 18 of September, to us in Italy: and by the account of the Chaldæans, a day after to them that dwell in Assyria. Moreover, the 21 of September (after the supputation of *Cæsar*) the Knot of the two fishes, a signe or star so called, goeth downe to our sight in Italie; like as the very Æquinoctiall star it selfe three daies after. After which time, *Philippus*, *Calippus*, *Dositheus*, *Parmenisçus*, *Conon*, *Crtion*, *Democritus*, *Eudoxus*, and *Iön*, agree all in this, (and that is marveile to see so many Astrologers to accord)

B That foure daies before the Calends of October, the star Capella, *i.* the Kid, riseth in the morning: and the morrow after, the [two] Kids doe the like. The sixt day before the Nones of October, which is the second day of the moneth, in Attica and the regions adjoyning, the star named the Crowne appeareth betimes in the morning: but in Asia, and to us Italians (after the reckoning of *Cæsar*) the next day following, the star Heniochus goeth downe in the morning. Two daies after that, to wit, the fifth of October (according to *Cæsars* computation) the star named Corona, *i.* the Crowne, beginneth to shine in Italie: the next day after, the stars called the Kids, loose their light in the evening. The eighth day of October, which is eight daies before the Ides thereof, the shining star within the foresaid Corona, sheweth it selfe in Italie, by *Cæsars* booke: but the 13 day of the same moneth, the star Vergiliæ, *i.* the Brood-hen, sheweth in the evening:

C and upon the very Ides, which is the 15 day of the moneth, the Crowne star aforesaid appeareth full and whole. Now six daies before the Calends of November, *i.* the 27 of October, the stars called Suculæ, or the rainie Hyades, begin to shew in the evening: and the last day of October, which is the even of the Calends of November, (if *Cæsar* say true) Arcturus setteth in Italy, and the said Suculæ or Hyades rise the same day together with the Sunne. Foure daies before the Nones of November, *i.* the second day of the moneth, Arcturus goeth downe in the evening: like as the fift day before the Ides, *i.* the ninth day of November, the star named Orions sword beginneth to retire: and likewise two daies after, the Brood-hen Vergiliæ is hidden and appeareth no more.

As touching now the countrey worke that Husbandmen are to employ themselves about du-

D ring this space of time or halfe quarter thus described, they ought if they did well, to sow Navewes, Turneps, and Radishes, upon those daies that I have appointed heretofore: and let them never goe by the voice of the rurall sort, who thinke it not good to sow so much as Rapes, after the departure of the Storke: for bold may we be here in Italy, even after the feast Vulcanalia to put them into the ground; as also our early white corne, together with Panicke. But after the going downe of the Harpe-star, good I hold it to sow Vetches, Phaseols, or Kidney-beans; as also the dradge or bollemong for horses, called Pabulum, *i.* Forage: howbeit, folke say, that this forage would not be sowne but about the new moone. This is the time also to strip green leaves, and slip tendrons from trees, thereof to make fodder for beasts in winter: and one good daies worke it is for a man to fill foure hampers made of purpose for such brouse. Now if these leaves

E be gathered and prepared before-hand when the moone is in the wane, they will never corrupt and putrifie. Greene must this brouse be in any wise when it is gathered, and not seere or withered.

To come now unto Vintage: men thought in old time that it was not readie nor the grapes ripe enough, before the Æquinox in September: but now adaies I see how they goe to worke every where sooner, and fall hastily to gather grapes halfe ripe. Therefore it were not amisse to set downe certaine markes and signes to direct the husbandman for this season. The rules therefore to guide him, be these: Gather no grapes hot, that is to say, when they be drie, nor unlesse a good showre of raine come betweene: yet take heed you must, that you plucke them not full of dew, namely while the dew that fell over night, doth stand upon them; nor before the Sun hath

F drunke up the said moisture, and dried them. Set into thy vintage hardly and fall to gathering, when either the vine leaves or greene braunches called the Portoirs, doe fall and rest upon the old wood: or when, after you have taken one grape from the rest of his fellowes standing thicke together in the cluster, you see the void place not to fill up againe, whereby it appeareth that the grapes and kernels about it, grow no more. Very good it is for grapes, if they be gathered when

the moone is croiſſant, to wit, before the full. At one preſſing ordinarily, there ſhould be filled twentie meaſures called Culei, *i.* Cowles: now is this meaſure for liquors the greateſt of all others, and by which the reſt ought to be proportioned juſtly. For to preſſe thus many cowles at once, and to ſerve twentie acres of vineyard, one wine-preſſe is ſufficient; and likewiſe to hold the ſame, one veſſell or keelvat. Some uſe but one planke or ſtocke to preſſe withall, but better it is to have them double: although thoſe that be ſingle be exceeding huge. As touching theſe preſſing plankes, it is not ſo much their thickneſſe and maſſive ſubſtance that is to be regarded, as their length; for in deed the longer and larger they bee, the better they doe their deed. In old time they uſed ropes, leather thongs, and leavers, and by force of them pulled downe and forced hard the preſſe-planks. Within this hundred yeares were the frames deviſed which wee call Græcanica; wherein the maine planke or upper ſtocke of the preſſe, went with a vice in manner of a skrew; for the wrinkles of the ſpindle were fitted and ſerved in an engin or windlace in manner and forme of a ſtar, ſet faſt to the worme or vice of the ſpindle aforeſaid, and which as it was turned and wreſted, lifted up or let downe the preſſe-planke or lid, togither with the weights of ſtones thereupon: and verely this faſhion of preſſes was held to bee beſt and moſt approoved. Howbeit, it is not 22 yeares ſince there came up another deviſe and invention to make ſmall preſſe-planks; leſſe winding peeces alſo, and the whole frame ſhorter: howbeit in the mids therof ſtood up the ſpindle of the ſaid skrew or vice. Now when they purpoſed to ſquize out the grapes, they laid certain lids or planks thereupon called Tympana, and thoſe they forced with a wreſt from aloft, uſing alſo the poiſe and weight of ſuch matters as they heaped upon the planks aforeſaid. G H

Moreover, the cuſtome is to gather apples and ſuch like ſoft fruit, about this time, with this obſervation or direction, namely, To go in hand with this buſineſſe when any are ſeene to fall of themſelves, as mellow and ripe, and not blowne downe by force of wind and tempeſt. Now is the ſeaſon alſo to preſſe out the lees or ſediment of the grapes: now the time ſerveth to ſeeth new wine to the halfe, and make cuit thereof; with this regard and conſideration, that if the moon be upon the chaunge, this be done by night; but if in the full, by day-light. As for other daies, it matters not much, ſo that the cuit be boiled either before the moone riſe, or after ſhe be gone downe. Moreover, heed is to be taken, that the grapes of yong vines or ſuch as grow upon low and mariſh grounds, be not uſed hereabout; and much leſſe thoſe that be not fully ripe. In the ſcumming alſo and clarifying of the liquor while it boileth, no other thing but leaves are meet for that purpoſe: for if any wood come neare and touch the veſſell or lead wherein the liquor is ſodden, it is thought that the cuit will be ſmoakie and ſmell of the fire. Furthermore, the ordinarie time of vintage holdeth 44 daies, to wit, from the Æquinoctiall in September, unto the going downe or occultation of the Brood-hen Vergiliæ: after which time, remember the oracle and common proverbe, That wine veſſels are not to be roſined, calked, and trimmed in cold; for good husbands would do this before-hand in hot weather. Howbeit in theſe daies I have ſeen thoſe that for want of veſſels have gone in hand to tun up their wine in the beginning of *Ianuarie: yea I have knowne when the vintage hath been ſo great, that wines newly preſſed have been kept in fiſh ceſterns: and for default of other pipes and tuns, when the wine-cellars have been full alreadie, I have ſeen them that would let the old run out into ſuch ceſterns, for to make room for the new, and ſuch as a man would ſay were neither made nor unmade. And yet this is not ſo often practiſed by occaſion of the exceeding ſtore of new wine that lyeth upon mens hands, as of a wicked and covetous mind that ſome carie to gather a deale togither for to ſet up a monopolie, thinking thereby to make a dearth and to raiſe the price of their wines, to the great detriment and hinderance of a common-weale. But a good and honeſt minded houſholder will reſt contented to furniſh himſelfe with a competent proviſion of wine, and lay up no more than he ſhall ſpend every year: and this is found alſo by experience the moſt profitable way for his purſe. As for all other matters concerning wine, becauſe I have alreadie ſpoken at large thereof, I will here lay a ſtraw and make an end. But this would not be forgotten, that ſo ſoone as grapes be gathered, men muſt high them apace and make haſt to get in their Olives: for preſently after vintage and wine-preſſing, they muſt thinke of drawing their oile, and employ themſelves in other workes of this ſeaſon, which are to bee done a little before and after the retreat of the Brood-hen ſtar Vergiliæ. I K L M

Culeus containeth 20 Amphors, which is 320 Congij or gallons.

*Some read, November.

A

Chap. xxxii.

The conſideration of the Moone and her courſe, reſpective vnto Husbandrie.

HEreunto ſhall bee annexed a diſcourſe as touching the Moone and the Winds, together with the Prognoſtication depending thereupon, as much as may bee thought neceſſarie and pertinent to Agriculture; to the end, that our ruſticke Aſtrologie may in all points be accompliſhed and perfect. For *Virgil* alſo was of this opinion, That ſome buſineſſe and workes of Husbandrie were to be digeſted and divided juſt according to the daies of every Moone in or-
B der as they goe, following herein the vanitie and oſtentation of *Democritus*. For mine owne part as I have hitherto in all my worke throughout reſted upon the good and profitable rules of our auncеſtors, ſo in this point alſo I meane to take their direction, and goe by no other. According to their ordinances and precepts therefore, this firſt is to be obſerved, That whatſoever is to bee cut, gathered, or laid up, be it wood, fruict, or graine, it ought to be done rather in the wane of the Moone, than whiles ſhe is croiſant toward the full, & leſſe daunger is it ſubject unto. *Item*, Touch no mucke, nor lay it upon thy lands but after the full, when ſhee is in the wane. *Item*, Dung thy ground, whiles the Moone is in conjunction with the Sunne, and in the firſt or laſt quarter. Gueld Bores and Steeres, lib Rams and Kids or young Goats in the old moone. *Item*, Set Hens to couve egs in the new of the Moone. Make thy trenches by night in the full Moone. Likewiſe, cover the
C roots of trees with mould when the Moone is at the full. *Item*, In moiſt grounds ſow and ſet either in the very chaunge, or foure daies before and after. As for the winnowing, vanning, and laying up either of corne or pulſe, they would have it done in the old Moone, about the laſt quarter. As alſo, That Pepiniers, Seminaries or Nource-gardens, be made when the Moon appeareth above the earth. But grapes ought to be troden, and new wine preſſed, whiles ſhee is under our horizon. Likewiſe, timber is to bee hewed, and many things elſe to bee done accordingly, whereof wee have written alreadie in their ſeverall places. And albeit the obſervation of the Moone, her age and chaunge is eaſie ynough, and nothing more familiar: whereof alſo I have written ſufficiently in the ſecond volume of this worke: yet further to inſtruct the ſimple countreyman who knoweth never a letter of his booke, and to ſet before his eies the true order and courſe of her moti-
D on and mutation, let him but obſerve and marke thus much, That ſo often as ſhe is ſeene Weſtward after the Sunne is gone downe, and ſhineth the forepart of the night onely, ſhe is croiſant, and in her firſt quarter, and then ſhall a man diſcerne evidently by the eie the one halfe of her bodie light: but looke when, as the Sunne ſetteth in the Weſt, ſhe riſeth at the ſame inſtant over-againſt him in the Eaſt, ſo as they may be both ſeene at once, be ſure ſhe is in the full. Againe, whenſoever ſhee riſeth late in the Weſt, and ſhineth not in the fore-part of the night, but toward the morning, make account ſhee is in the wane, and ſheweth but her halfe part againe. But ſo long as ſhee appeareth not at all, and giveth no light, aſſure your ſelfe ſhee is in the conjunction with the Sunne all that while, and this in Latine is called Interlunium, [i. the change.] Now at the verie inſtant of her conjunction or chaunge, and the firſt day, untill ſhe bee one day
E old, ſhee will remaine above the earth ſo long as the Sunne is there alſo with her: the ſecond day ſhe will bee in our hemiſphære by night, tenne * twelve parts of an houre, and a quarter of one twelfth part. Thus in proportion will ſhee riſe unto the fifteenth day after her chaunge, multiplying everie day the ſaid portion of the houres. When this fifteenth day is come, ſhee will be all the night whole above the earth, and all day long under. Vpon the ſixteenth day of her age ſhee will remaine beneath our Hemiſphære, after the firſt day, tenne parts of twelve, and one quarter of a twelfth part within night before ſhee riſe and ſhew her ſelfe, and ſo will ſhee keepe daily the foreſaid proportion juſt, in late riſing: deminiſhing ſtill her light by the ſame degrees, untill the chaunge. And looke how much ſhee ſtaieth in the beginning of the night under the earth ere ſhee appeare in our Horizon, ſo long in the next morning will it bee after day-light,
F ere ſhee goe downe. Finally, every ſecond moneth the Moone hath thirtie daies full out: like as each other moneth betweene ſhee wanteth one of that number, and hath but nine and twentie. Thus much concerning the courſe of the Moone in regard of Husbandrie.

* 51 minutes & 3/4.

Chap.

G

Chap. xxxiii.

The consideration of the Winds, respective to Agriculture.

AS touching winds, the reason and quartering of them is more intricate, fuller also of scrupulous doubts and difficulties, than was the observation of the Moone: notwithstanding that, there is not a day in the yeare goeth over our head, but wee may easily find and marke both South and North. For if a man doe observe the Sunne rising any day whensoever hee will, and upon the sixt houre of the same day (to wit at noone) stand so as he have his left shoulder directly turned against the said Sunne rising, he may be assured, that hee hath the South full upon his face, or before him, and the North behind his backe. Now the line or streight way that runneth in this manner through a field North and South, is called in Latine *Cardo. When a man standeth thus, if he would see his owne shaddow, he shall doe well to turn his bodie round about: for otherwise it will be behind him. Chaunging sides therefore, so as he have the Sunne rising or Levant of that day just against his right shoulder, and the setting upon his left, hee may know the mid day or South point as well as before, namely, when his bodie casteth just before him the shortest shaddow, enclining to the one hand no more than to the other. Let there bee then either a small furrow rased along just through the middest of the shaddow with a spittle spade, or the point of some hooke; or else a line drawne with a traine of ashes, for the length of some twentie foot or thereabout (to make the thing more plaine.) Which done, cut the said line or furrow crosse overthwart the middle, to wit, at the tenth foot, if the whole bee twentie: and then make a round small circle about it, which may serve in steed of a Navill, and bee so called. That part of the line then which goeth directly forward from the crown of the head in the foresaid shaddow, pointeth out the North wind. Thou therefore that art to lop or prune trees, take heed thou makest not thy cuts so, as they looke into that coast: neither let thine hortyards or vineyards stand open to that wind, unlesse it be in Affricke, Cyrene, and Ægypt. Againe, so long as the wind sits in that corner beware Ploughman [for now I speake to thee] thou breake up or eare no ground, nor enter into any such worke in the field as thou art alreadie forbidden by mee to doe. But marke what part of the line shall come from the foresaid Circle straight before thy feet, regarding the noone-tide or mid-day, assure thy selfe the same telleth thee which is the South wind, called by the Greekes Notus, as we have declared alreadie. Doth the wind rise and blow from that side? meddle not Husbandman during that time with thy vine. Carpenter, fell no trees then for timber I advise thee. A wet wind this is and hote, within the climate of Italie. In Affricke verily drie ynough it is, and bringeth faire weather with it, but with all his faire looks, he kindleth fire otherwhiles, and burneth many things. Let hardly the Vine spread her braunches, and run into this wind, in all places of Italie: but leave not the cuts either of tree or vine looking that way. He that setteth out a plot of ground for Olives, and planteth them, hath cause to bee afraid of this wind, especially for foure daies together, about the rising or apparition of the star Vergiliæ or Brood-hen. They also that graffe sions in the stocke by cleft, or set bud in the scutcheon by way of inoculation, must take heed how they meddle in this wind.

*Vtratus & circatus veteribus

H

I

K

Moreover, it will not be amisse to give some caveat as touching the very houre of the noone-day, which giveth us knowledge of this wind and this quarter; namely, what is to be done at such a time, and what not? Thou woodman and forrager both, see thou neither cut nor lop trees, see thou gather no greene leaves and tendrils for thy fodder at noone-tide. Thou sheepeheard, thou heardman whatsoever, when thou perceivest in Summer time by thy shaddow growing short, that noonestead is at hand, drive thy sheepe and cattaile out of the Sunne, into some worme-stall and place of shade. More yet I have to say to thee, If thou keepe sheepe or other beasts at their pasture in Summer time, lead them or drive them before thee all the morning into the West, before mid-day: but after noone turne thy face Eastward with thy flocke and thy heard. Otherwise, and at other seasons, as namely, all Winter and in the Spring, thou shouldest doe thy cattaile hurt, to conduct or lead them after this manner out of the warme Sunne into moist places, and where the dew falleth. As charie also and heedfull must thou be to drive thy cattaile Northward from the Sunne, and there to let them graze: for marke what I say, In so doing, they will not bee able to hold open their eies; this wind will make them bleared & bloudshotten; nay, it will drive them into a gurrie or flux of the bellie, which will soone make an end of them. Howbeit, if thou

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wouldest

A wouldest have the beasts conceive and bring forth females, force them when they be leaped and covered, to stand with their heads into this wind, and thou shalt see the proofe hereof.

Chap. xxxiiii.

Of the lines and limits that divide and bound fields.

WEe have shewed in the next chapter before, the manner how to draw a line or furrow North & South; and how in the midst thereof there should be a round compasse, made manner of a Navill, which in Latine is called Vmbilicus. Now if you would know likewise the other parts of the heaven, let there run such another line overthwart the Navill or Cir-
B cle just in the middest: and then shalt thou see, that this line will direct thee to the East and West points, Æquinoctiall. [Now the way that thus cutteth through any field East and West, ought to bee called Decumanus in Latine, or the Broad-way.] Which done, draw other two lines through the centre of the foresaid circle, cutting one another aslant [like S. *Andrewes* crosse] in manner of the letter X, so as that line which at the one end pointeth to the right hand of the North, reach to the left hand of the South at the other. Likewise, that which regardeth the left side of the north at the one end, run directly to the right hand of the South with the other. All these lines must be of an even length, of equall distance one from another, and passe through the same Circle which we call the Navell. Having thus made the foure crosse pathes or waies in every field once for all, thou maist ever after know how the winds doe stand. But if thou list to have such a devise to serve
C thy use many times after, make a little instrument of wood, but the same as round as can bee by the compasse, and therein draw or print foure lines of an even length and equall distance, passing as Diameters all through the center, to the circumference of the rundle: and this may serve thee in stead of a Quadrant, where & whensoever thou needest. The manner how to make and use this instrument, I am content thus to shew, because I have to deale with simple ignorant men of dull wit and shallow conceit, who may soon erre & do amisse. Let us see then first, for the meridian line and the South point of the noone day, for to bee perfect therein; because it is ever the same, and chaungeth not from one end of the yeare to another, whereas the Levant varieth every day, for that the Sunne never riseth the morrow morning, from the same point just that hee rose the day before: which I note, least haply any man should take one certaine line for to point out the
D Sunne rising or the East, and make his Quadrant or compasse thereby. Now when thou hast in this wise exactly set out the principall regions and quarters of the heaven, observe this, that the end or head of the line which is next to the North point Septentrio: on the East side, the same sheweth the very place where the Sunne riseth at the Summer Sunnestead, to wit, the longest day of the yeare; and the wind there seated, is called in Latine Aquilo, *i.* the Northeast wind, and in Greeke Boreas. Thou knowing this perfectly, set thy trees and plant thy Vines full upon it. But so long as this wind bloweth, plough no lands, set no trees or plants that are to beare fruit, cast no graine nor seed into the ground. For why? this wind peirceth, pincheth, and killeth the heart of any tree root above the ground, that thou shalt bring to replant. Take warning therfore beforehand, and be advised: for Experience hath taught, That one thing is good for strong and
E sturdie trees, and another for young and tender plants. Neither am I ignorant or forgetfull, that the Greekes have placed in this corner the wind which they name Cæcias: but *Aristotle* himselfe a Philosopher of an infinite spirit and high conceit (the man that hath so done) sheweth a reason drawne from the convexitie and bending cope of the heaven, whereby the Northeast wind or Aquilo bloweth full opposite to the Southwest Africus. Howbeit, the Husbandman is not afraid of this Northeast wind Aquilo all the yeare long, in those particularities whereof hee is forewarned. For in the middest of Summer this wind doth moderate and temper the ardent heat of the starres raining and raging in that time: then chaungeth he his name, and [during the Dog-daies] is called Etesias. When thou therefore feelest him blow cold, take heed and be not too bold. But learne this withall, that howsoever this wind may doe harme, in some such respect, for which thou
F art forewarned; yet the wind Septentrio that bloweth plumbe North, is far more daungerous and mischievous than he. Against the Northeast wind aforesaid, let both hortyards, tree-rows, groves, and vineyards, be raunged; in all Natolia, Greece, Spain, maritine coasts of Italie, Campain, and Apulia. If thou desirest to breed males, keepe thy cattell with their heads into this wind, and in that sort let the females be covered.

Dextratus & Sinistratus, Antiquis.

When

When thou haſt found out in this manner the Northeaſt wind Aquilo, beſure that the wind which bloweth full againſt it, from the point where the Sun ſetteth in mid-winter when daies be ſhorteſt, is the Southweſt, called in Latin, Africus; and in Greeke, Lybs. Obſerve this wind well, for if a beaſt after ſhe be covered, turne about directly into this wind, ſhee will for certaine conceive a female. And thus much of the Line in thy quadrant next to the North point on the Eaſt ſide. G

The third Line from the North point (which we drew firſt through the latitude of the ſhadow beforeſaid, and which we called Decumana) pointeth out the Æquinoctiall Sun-riſing in March and September; directeth thee alſo to the Eaſt wind under it, called in Latine Subſolanus, and in Greeke Apeliotes. Where the climat is healthfull and temperate, let vineyards be planted and arraunged into this wind: let ferme-houſes alſo in the countrey be ſo built, as the dores and windowes open into it. This wind loveth well to be dropping, and to diſtill gentle ſhowres of raine; howbeit dryer it is than the Weſt wind Favonius, which bloweth over-againſt him from the Æquinoctiall ſun-ſetting full Weſt, called in Greeke * Zephyrus. Vpon this Weſterne wind, Olive rowes ſhould ſtand, according to *Catoes* mind: this wind is hee that beginneth the Spring: this wind openeth the veines and pores of the earth, and with his mild coldneſſe is healthfull and holeſome for all plants, for man alſo and beaſt. This wind governeth this whole ſeaſon, and preſcribeth the time for pruning vines, for ſarcling and dreſſing corne, for planting trees, for graffing fruit, for trimming and ordering Olives; and to ſay all in one word, ſo kind he doth breath, that he cheriſheth and foſtereth the earth, and all things thereupon. H

* ζέφυρος. *Homer.*

The fourth Line in your Quadrant or Compaſſe (reckoning from the North point, which alſo reacheth next to the South point on the Eaſt ſide) noteth the Sun-riſing in mid-winter when the day is ſhorteſt; and withall the Southeaſt wind called in Latine Vulturnus, and in Greeke Eurus; which as it is a drier wind than the two laſt named, ſo is it alſo warmer: in regard whereof, it is good to ſet bee-hives and plant vines tending into this coaſt, I meane in other parts of Italy remote from the ſea, and alſo in Gaule. Then ſhall you have to blow full oppoſite unto it, the wind Corus, directly from the ſun-ſetting in mid-ſummer when the day is longeſt, by-weſt from the North; and this Northweſt wind the Greekes call Argeſtes: one of the coldeſt he is, like as all they be which blow from any point of the North. No marveile therefore if hee be as much dread & feared as the North wind Septentrio, for commonly he bringeth with him haile ſtorms good ſtore. I

As touching the Southeaſt wind Vulturnus, if the coaſt be cleare where and when he beginneth to riſe, it will not be long ere he lie, and commonly he is downe before night; but the Eaſt wind in deed continueth moſt part of the night. But be the wind what he will be, if he blow ſenſibly hot, you ſhall have him hold many daies togither. And to conclude, would you know when to have a Northweſt wind? marke when the earth drieth ſuddainly at one inſtant, it will not bee long but he will be with you: contrariwiſe, when you ſee the ground moiſt and wet with a kind of ſecret dew unſeene and unknowne, reckon upon it that ſhortly you ſhall have a South wind to blow. And thus much for Winds. K

Chap. xxxv. L

Signes to prognoſticate what weather is toward.

HAving thus ſet downe ſufficiently a diſcourſe of the Winds, becauſe I would not reiterate one thing often, what remaineth now, but in good order to paſſe and proceed to the prognoſtication and foreknowledge of the weather? and the rather, for that I ſee that *Virgil* tooke great pleaſure herein and ſtood much upon this point: for thus he relateth unto the rude and ignorant men of the countrey, That oftentimes in the very mids of harveſt, hee hath ſeene whirle-puffs and contrarie winds, encounter and charge one another as it were in battaile, doing much harme to corne. Moreover, it is reported, that *Democritus* at what time as his brother *Damaſus* was entred well into harveſt-worke, taking the opportunitie (as he thought) of a moſt hot ſeaſon, beſought him earneſtly to let the reſt of his corne to ſtand ſtill a while longer, and to make haſt to get that into the barne under roufe which was cut and reaped downe; & this he did without any reaſon by him made, why and wherefore. And what enſued hereupon? Surely within few houres after, there powred downe a mightie ſhowre of raine, and prooved *Democri-* M

tus

A *tus* to be a wiſe man and a true prophet. Moreover, it is a rule commonly given and obſerved, That neither Reeds would be ſet and planted but toward raine, nor corn ſowed but againſt a good ſhowre. And therefore ſince this skill is of ſuch importance, I am content briefly to touch thoſe ſignes that foreſhew what weather will be, and make choice of ſuch which by ſearch and experience are knowne principall and make moſt for this purpoſe.

And firſt begin I will at the Sun, the beſt prognoſticator of all others: When he riſeth cleare and not fiery red, it is a ſigne that the day will be faire; but if he ſhew pale and wan, it preſageth a cold winter-like haile-ſtorme that very day: but in caſe hee went downe over-night cleare and bright, and ſo roſe the next morning, ſo much ſurer may you bee of faire weather. If the Sun in riſing ſeeme hollow, he foretelleth raine: and when before his riſing the clowds be red, the winds
B will bee aloft that day: but in caſe there be ſome blacke clowds intermingled among, you ſhall have raine withall. If the raies and beames of the Sun be red, both when he riſeth and when hee ſetteth, there will fall good ſtore of raine. Are the clowds red about the Sun as he goeth down? you ſhall have a faire day the morrow after. If when the Sun doth riſe you ſee flying clowds diſpearſed, ſome into the South and others Northward (ſay all be cleare and faire otherwiſe about him) make reckoning that day of wind and raine both. Marke at his riſing or going downe, if his beames be ſhort and as it were drawne in, be ſure of a good ſhowre. If at the Suns ſetting it raine, or that his raies either looke darke and blew, or gather a banke of clowds, ſurely theſe be great tokens of tempeſtuous weather & ſtorms the morrow after. When in his riſing the beams ſhine not bright and cleare, although they be not over-caſt with a clowd, yet they portend raine.
C If before he riſe, the clowds gather round togither like globes, they threaten ſharpe, cold, and winter weather: but in caſe hee drive them before him out of the Eaſt ſo as they retire into the Weſt, we have a promiſe thereby of a faire time. If there appeare about the bodie of the Sun, a circle of clowds compaſſing it round, the nearer they come about him and the leſſe light that they leave him, the more troubled and tempeſtuous weather will follow: but in caſe he be environed with a double circle, ſo much more outragious and terrible will the tempeſt be. If peradventure this happen at his riſing, ſo as the ſaid clowds be red againe which compaſſe the Sunne, looke for a mightie tempeſt one time or other of that day. If haply theſe clowds encloſe him not round, but confront and ſeeme as if they charged upon him, looke from whence they come, from that quarter they portend great wind: and if they encounter him from the South, there
D will be raine good ſtore and wind both. If as the Sun riſeth he be compaſſed with a circle, marke on what ſide the ſame breaketh and openeth firſt, and from thence looke for wind without faile: but if the ſaid circle paſſe and vaniſh away all at once equally, as well of one part as another, you ſhall have faire weather upon it. If at his riſing you ſee him to caſt his beams afar off among the clowds, and the mids between be void thereof, it ſignifieth raine. If he ſpread his beams before he be up and appeare in our Horizon, looke for wind and water both. If about him toward his going downe there be ſeene a white circle, there will bee ſome little tempeſt and troubleſome weather that night enſuing: but if in ſtead thereof hee be over-caſt with a thicke miſt, the tempeſt will be the greater and more violent. If the Sun couchant appeare fiery and ardent, there is like to bee wind. Finally, if the circle aforeſaid bee blacke, marke on which ſide the ſame brea-
E keth, from thence ſhall you have bluſtering winds. And ſo an end of the Sunne and his prognoſtications.

Now by right, the Moone challengeth the next place for her preſages of weather to come; Firſt and foremoſt, the Ægyptians obſerve moſt her Prime, or the fourth day after the chaunge: for if ſhe appeare then, pure, faire, and ſhining bright, they are verily perſuaded that it will bee faire weather: if red, they make no other reokoning but of winds: if dim and blackiſh, they looke for no better than a foule and rainie moneth. Marke the tips of her hornes when ſhe is five daies old, if they be blunt, they foreſhew raine; if pricking upright and ſharpe pointed withall, they alwaies tell of winds toward: but upon the fourth day eſpecially, this rule faileth not, for that day telleth trueſt. Now if that upper horne of hers only which bendeth Northward, appeare ſharpe
F pointed and ſtiffe withall, it preſageth wind from that coaſt: if the nether horne alone ſeeme ſo, the wind will come from the South: if both ſtand ſtreight and pricking at the point, the night following will be windie. If the fourth day after her chaunge, ſhe have a red circle or Halo about her, the ſame giveth warning of wind and raine. As for *Varro*, hee (treating of the preſages gathered from the Moone) writeth thus: If (quoth he) the new moone when ſhe is juſt foure daies

old,

old, put her horns direct and ſtreight forth, ſhe preſageth thereby ſome great tempeſt at ſea pre- G
ſently to follow, unleſſe it be ſo that ſhe have a guirland or circle about her, and the ſame cleare and pure; for then there is good hope that there will be no foule nor rough weather before the full. If at the full, one halfe of her ſeeme pure and neat, a ſigne it is of a faire ſeaſon; if it be red, the wind will be buſie; if enclined ro blacke, what elſe but raine, raine. Doe you ſee at any time a darke miſt or clowd round about the body of the moone? it betokeneth winds from that part where it firſt breaketh: and in caſe there bee two ſuch clowdie and miſtie circles environing her, the tempeſt will bee the greater: but how if there bee three of them for failing, and thoſe either blacke, or interrupted, diſtracted and not united? ſurely then there will be more ſtormes & more. The new moone whiles ſhee is croiſſant, if ſhee riſe with the upper tip or horne blackiſh, telleth beforehand that there will be ſtore of raine after the full, and when ſhe is in the wane: but if the H
nether tip be ſo affected, the rain will fall before ſhe be at the full. But what if that blackneſſe appeare in the middle of her bodie between? then (ſaith *Varro*) it will powre of rain in the very full. A full moone having about her a round circle, ſheweth that there will bee wind from that part, where the ſaid circle is moſt ſplendant. If her hornes appeare when ſhe riſeth, more groſſe and thicke than ordinarie, looke ſoone after for a terrible tempeſt and ſtormie weather. If ſhee ſhew not in our Horizon before the prime or fourth day after the chaunge, and the Weſt wind blow withall, then that moone throughout threatneth cold and winter weather: and if the day after the full ſhe ſeeme extraordinarily enflamed, ſhee menaceth unto us ſharpe ſhowres and bitter tempeſts. Finally, in every moone there be eight points and ſo many daies (according as ſhe lighteth upon the angles of the Sunne) which moſt men obſerve onely, and take their preſages of future I
weather by, to wit, the third, ſeventh, eleventh, fifteenth, nineteenth, one and twentieth, ſeven and twentieth, and the very day of her conjunction or chaunge.

In the third place, a man may know the diſpoſition of the ſeaſons by the fixed ſtars, & therefore it behooveth to obſerve and marke them. They ſeeme otherwhiles in the skie to flit and run too and fro, and then wee ſhall not be long without great winds, riſing from that quarter where ſuch appeared and gave token.

The ſtarrie skie, if it ſhew cleare and bright all over, and in every part alike, during that particular ſeaſon [namely, betweene the occultation of the Harp-ſtar, and the Æquinoctiall point] which I propoſed and ſet downe heretofore, it is a fore-token of a faire and drie Autumne, but yet cold. K

If the Spring and Summer both, paſſed not cleare without ſome raine and wet weather, it will bee an occaſion that the Autumne following ſhall be drie, and leſſe diſpoſed to wind; howbeit, thicke, muddie, and enclined to miſts. A faire and drie Autumne, bringeth in alwaies a windie winter.

When all on a ſodaine the ſtars looſe their brightneſſe and looke dim, and that neither upon a clowd nor a miſt in the aire, it ſignifieth either raine, or grievous tempeſts.

If the ſtarres make ſemblance as if they flew up and downe many togither, and in their flying ſeeme whitiſh, they denounce winds from that coaſt where they thus do ſhoot. Now if it ſeeme to the eye, as if they ran and kept one certaine place, thoſe winds will hold and ſit long in one
corner: but in caſe they do ſo in many quarters of the heaven, they betoken variable and incon- L
ſtant winds, going and comming, and never at reſt. [When you ſee a circle about any of the other five planets or wandring ſtars, you ſhall have powring ſhowres ſoone after.] Within the ſigne Cancer, there be two pretie ſtars which the Mathematicians call Aſelli, [*i.* little Aſſes] betweene which there ſeemeth to be a ſmall clowd taking up ſome little roome, and this they name in Latine Præſepia, [*i.* a Crib, Crarch, Bowzey, or Manger:] now if it chaunce that this Racke or Crib appeare not, and yet the aire be faire and cleare otherwiſe, a ſigne it is of cold, foule, and winter weather. Alſo if the one of thoſe two little ſtars, to wit, that which ſtandeth Northerly, be hidden with a miſt, then ſhall you have the South wind to rage; but in caſe the other which is more Southerly, be out of ſight, then the Northeaſt wind will play his part.

As touching the Rainbow, if it appeare double as if there were two of them at once, it tel- M
leth of raine toward. A Rainbow preſently after raine, is a ſigne of faire weather: but this is not ſo certein, neither will it hold long. Alſo, when a man ſeeth new circles ſtill about any planets, there will be much raine ſoone after.

In Summer time, if there chaunce to bee more thunder than lightning, it threatneth winds from

A from that coaſt where it thundred: contrariwiſe, if it lighten much & thunder little, looke for rain plentie: when you ſee it lighten, and the skie otherwiſe cleare and faire, it is a token that rain and thunder will follow thereupon, yea and rigorous cold weather beſides: but the cruelleſt and moſt bitter impreſſions of the aire, enſue upon ſuch lightnings as come from all the foure quarters of heaven at once: if it lighten from the Northweſt onely, it betokeneth raine the day following; if from North, it is a ſigne of wind from thence: if from the South, Northweſt, or full Weſt, it happen to lighten in the night & the ſame be faire, it ſheweth wind and rain from out of thoſe coaſts: morning thunders foreſhew winds; but if they be heard at noone, they preſage ſtore of raine.

As touching clouds, if you ſee the racke ride apace in the aire, the weather beeing faire and drie, looke for wind from that quarter whence thoſe clouds do come; and if they ſeeme to gather
B thicke in that place, diſpearſed they will bee and ſcattered when the Sun approacheth: but more particularly, if this happen from the Northeaſt, they portend raine; if from the South, ſtorme and tempeſt: if at the Suns ſetting the racke ſeeme to ride from both ſides of him into the open aire, they ſhew of tempeſts toward: if the clouds be exceeding black, flying out of the Eaſt, they threaten raine againſt night; but if they come out of the Weſt, it will ſurely raine the morrow after: if the clouds be diſparkled many togither out of the Eaſt, and flie like fleeces or flockes of wooll, they ſhew raine for three daies after: when clouds flie low, and ſeeme to ſettle upon the tops of the hills, looke ſhortly for cold weather: contrariwiſe, if you perceive thoſe tops of mountaines cleare without miſt or cloud, the weather will ſoon take up and turn to be faire: when the clouds ſeeme to be heavily charged and full, and yet looke white withall (which * conſtitution of the aire
C is called commonly the white weather) there is an haile-ſtorme at hand: moreover, bee the skie never ſo cleare, the leaſt cloud appearing therein, is enough to engender and foreſhew wind and ſtorme: miſts if they come downe and fall from the mountains, or otherwiſe deſcend from heaven and ſettle upon the vallies, promiſe a faire and drie ſeaſon.

* Some call them Towers.

Leaving the ſtarres and clouds above, let us come to our fires that we make and keepe in our houſes here beneath, for they are to be raunged in the next place of our prognoſtication. If the fire then burne in the chimney pale, and keepe therewith a huzzing noiſe, wee find by experience that it foreſheweth tempeſt and ſtormie weather: as alſo we may be ſure of raine, in caſe wee ſee a fungous ſubſtance or ſoot gathered about lamps and candle ſnuffs: if you ſee the flame either of fire or candle mount winding and waving as it were, long you ſhall not be without wind. The
D like is to be ſaid of fire and candle light, if either they ſeeme to goe out of themſelves, or to kindle and take fire with much adoe. Alſo, when we diſcerne in the fire a number of ſparkles gathered togither and hanging one to another: or if when the pot is taken off from the fire, the coles ſticke to the bottome and ſides: or when the fire being raked in embres, keepeth a ſpitting and ſparkling from it: alſo, if the aſhes lying upon the hearth grow togither: and laſt of all, when the live-cole ſhineth brighter or ſcorcheth more than ordinarie: all theſe be ſigns of raine.

Goe we a little lower to the water, for that element alſo giveth ſignes of the weather: and firſt of all, if you ſee the ſea within the haven, after the floud is gone, in a low and ebb water to bee calme, and yet heare it keepe a rumbling noiſe within, it foreſheweth wind: if it doe thus by times and fits one after another, reſting ſtill and quiet between-whiles, it preſageth cold weather & rain:
E *Item*, if in calme and faire weather the ſea ſtrond or water banks reſound and make a noiſe, it is a token of a bitter tempeſt: ſo it fareth alſo with the very ſea it ſelfe; for if it be calme, & yet make a roaring; or if the ſome therof be ſeen to ſcatter too & fro, or the verie water to boile & buble, you may be bold to foretell of tempeſts: the Puffins alſo of the ſea, [*i.* fiſhes named in Latin Pulmones] if they appeare ſwimming above water, do foreſignifie cold wether for many daies togither: oftentimes the ſea being otherwiſe calme, ſwelleth, & by hooving higher than ordinarie, ſheweth that ſhe hath wind good ſtore incloſed within her, which ſoon after will breake out to a tempeſt.

Let us come aland againe, and marke the diſpoſition of woods and hills: you ſhall heare the mountains and foreſts both, keep a ſounding and rumbling noiſe, and then do they foretell ſome change of weather: nay you ſhall marke the leaves of trees to move, flicker & play themſelves, and
F yet no wind at all ſtirring; but be ſure then that you ſhall not be long without. The like prediction is to be gathered by the light downe either of poplars or thiſtles flying too and fro in the aire; alſo of plumes and feathers floting upon the water. Goe downe lower to the vales and plaines: if a man chaunce to heare a buſtling there, he may make account that a tempeſt will follow. As for the rumbling in the aire, it is an undoubted ſigne and token thereof.

Moreover, the verie bruit and dumbe creatures preſage and give warning, what weather there G
will be. To begin with fiſhes of the Sea: the dolphins playing and diſporting themſelves in a calme water, doe certainely fore-ſhew wind comming from that coaſt whence they fetch theſe friskes and gambols: contrariwiſe, if they fling and daſh water this way and that way, the ſea at that time being rough and troubled, it is an infallible ſigne of a calme and of faire weather toward. The Cuttle or little Calamarie Loligo, launching it ſelfe and flying above the water; the Cockles and Winkles cleaving and ſticking hard to the gravell; the Sea-urchins thruſting themſelves into the owſe and mud, or otherwiſe balaiſed and covered with ſand, be all ſigns of tempeſts neare. The like may bee ſaid of Froggs, when they crie more than their cuſtome is; and of Seamews alſo, when they gaggle in a morning betimes extraordinarily: ſemblably, the Cormorants, Gulls, Mallards, and Ducks, when they keepe a proining of their feathers with their bills, H
foreſhew wind: and generally, when you ſee other water-foule to gather and aſſemble togither and then combat one with another, or Cranes make haſt to flie into the midland parts of the maine. The Cormorants and Gulls flying from the ſea and ſtanding lakes, and Cranes ſoaring aloft in the aire ſtill, without any noiſe, doe put in comfort of a faire and drie ſeaſon: ſo doth the Howlat alſo, when ſhee cries chuitt in rainie weather: but if it be then faire and drie, we ſhall be ſure to have foule tempeſts for it afterwards: Ravens crying one to another as if they ſobbed or yexed therewith, and beſides clapping themſelves with their wings, if they continue this note, doe portend winds; but if they give over between-whiles, and cut their crie ſhort as if they ſwallow it backe againe, they preſage raine and wind both. Iacke-dawes, if it be late ere they returne from their reliefe abroad, foretoken cold and hard weather; ſo doe the white-birds when they I
aſſemble and flock togither, as alſo when land-foule (and the crow eſpecially) keepe a crying againſt the water, clapping their wings, waſhing alſo and bathing themſelves. If the ſwallow flie low and ſo neare the water, that ſhe flap the ſame oftentimes with her wings, it is a ſigne of raine and foule weather. Semblably, all other birds that neſtle in trees, if they ſeeme to make many flights out, but returne quickely againe to their neſts. Moreover, if Geeſe hold on a continuall gaggling out of all order untunably, a man may gueſſe no better by them, no more than he can of the Heron which he ſeeth heavie and ſad upon the ſands.

And no marveile that theſe river-foules, or generally any other birds of the aire whatſoever, ſhould have a ſecret preſage and foreknowledge of the diſpoſition of the aire; for the very four-footed beaſts of the earth doe make ſhew thereof by their behaviour. The ſheepe and ſuch ſmall K
cattaile, leaping and playing wantonly, dauncing alſo as untowardly without meaſure, doe teſtifie ſome chaunge of weather: nay the dull and heavie oxen holding up their noſe and muzzles, ſnuffe and ſmell into the aire, yea and keepe a licking againſt the haire [toward raine.] Alſo, when you ſee the foule and filthie hoggs, rend, teare, and fling about them bottles of haie, and yet they care not for it when they have done, becauſe it is no meat for them: likewiſe if you perceive the piſmires or ants either lying cloſe and idle, full againſt their nature (whoſe propertie is to be induſtrious and ever buſie) or encountring one another in battaile-wiſe, or els carrying their eggs abroad out of their holes. Finally, when the mads or earthworms come forth and appeare, a man may be bold to foretell of a chaunge in the weather.

What ſhould I ſay more? It is knowne for certaine, that the Claver-graſſe or hearbe Trefoile L
will looke rough againſt a tempeſt, yea and the leaves thereof will ſtand ſtaring up as if it were affraid thereof. And to conclude and make an end once of this diſcourſe, whenſoever you ſee at any feaſt the diſhes and platters wherein your meat is ſerved up to the bourd, ſweat or ſtand of a dew, and leaving that ſweat which is reſolved from them, either upon dreſſer, cupbourd, or table, be aſſured that it is a token of terrible tempeſts approaching.

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